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Health Care Financing

Special Report

Hospital Data by Geographic Area for
Aged Medicare Beneficiaries:
Selected Diagnostic Groups, 1986

Volume 1



U.S. Department of Health and Human Services
Health Care Financing Administration
Office of Research and Demonstrations

Health Care Financing

Special Report

The Health Care Financing Administration (HCFA) was established to combine health financing and quality assurance programs within a single Agency. HCFA is responsible for the Medicare Program, Federal participation in the Medicaid program, and a variety of other health care quality assurance programs.

The mission of HCFA is to promote the timely delivery of appropriate and quality health care to the 29.0 million Medicare enrollees and the 21.6 million Medicaid recipients among the Nation's aged, disabled, and poor. The Agency must also ensure that program beneficiaries are aware of the services for which they are eligible, that those services are accessible and of high quality, and that Agency policies and actions promote efficiency and quality within the total health care delivery system.

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The Health Care Financing Special Report series presents single theme reports that provide in-depth coverage of an important issue in health care financing.

Hospital Data by Geographic Area for Aged Medicare Beneficiaries:

Selected Diagnostic Groups, 1986 is part of HCFA's efforts to provide the public with information on the use of Medicare-covered services and outcomes of treatment, and how these vary among different geographic areas. This report should be useful in promoting further understanding of the reasons for geographic variations in the use of services and in generating hypotheses for additional research.

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Introduction

This two-volume compilation of data is part of efforts of the Health Care Financing Administration (HCFA) to provide information on the use of inpatient hospital services and the outcomes of treatment. The information has been assembled to display how the rates of use of inpatient hospital services and the outcomes of care received by Medicare beneficiaries vary by demographic characteristics and across different geographic areas. Volume 1 contains rates of hospitalization, 30-day post-admission mortality, and population mortality for 26 diagnostic groupings. Volume 2 contains rates of hospitalization and 30-day post-admission mortality for 14 procedures. The data reflect only the experience of the 96.7 percent of Medicare beneficiaries who were not enrolled in health maintenance organizations (HMOs) because complete information is not available for HMO enrollees.

The data in Volume 1 are displayed for all discharges and for 11 diagnostic groups chosen for their importance in terms of frequency and health impact. Included in these 11 groups are heart disease, cancer, stroke, pneumonia and influenza, gallbladder disease, hernia of the abdominal cavity, and hip fracture. In most instances, diagnostic groupings here are defined using codes of the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM), the same codes used in hospital and mortality data reported in publications by the National Center for Health Statistics. In addition, summary data

are presented for 15 diagnostic categories used in the Health Care Financing Administration (1988) publication *Medicare Hospital Mortality Information, 1987* (Appendix B).

In previous research, substantial variation has been identified in the amounts of health services used in different geographic areas. Wennberg, Freeman, and Culp (1987) have identified substantial differences in the use of inpatient hospital services between the populations of New Haven and Boston, despite the fact that they are similar demographically. Wennberg and Gittelsohn (1973, 1982) have also found significant variation in rates of tonsillectomy, hysterectomy, prostatectomy, and other procedures among hospital areas in New England. Chassin et al. (1986) found large differences in the use of both medical and surgical services among Medicare beneficiaries residing in 13 large areas (i.e., States or parts of States). It is not known, however, whether the variation in rates is medically appropriate. Variations in use of services and in outcomes of care may reflect differences in health status or in incidence of certain diseases among populations as well as differences in practice patterns among areas. Blumberg (1987) has found substantial differences in average health status among metropolitan areas, after adjusting for age. Blumberg (1982, 1987) has also reported, however, that regional differences in use of inpatient hospital services do not parallel differences in reported morbidity. Chassin et al. (1987)

found evidence of inappropriate use of coronary angiography, carotid endarterectomy, and upper gastrointestinal tract endoscopy among Medicare beneficiaries. Wennberg et al. (1977) reported that rates of tonsillectomy declined substantially in Vermont after feedback on geographical variations in tonsillectomy rates was given to Vermont physicians. Similarly, Keller (1987) has reported that, in certain areas of Maine, high rates of lumbar laminectomy, hysterectomy, and prostatectomy were reduced after physicians practicing in those areas were provided with information on their rates compared with the State average. However, in their studies, Keller and Wennberg did not address the issue of whether care became more appropriate in these areas.

These volumes contain more complete information on demographic and small-area variations in hospitalizations than has been available. The experience of the aged Medicare population in the entire United States is covered. Also, the population-based mortality rates provided can be studied in relation to variations in hospitalization rates. This information will be of interest to researchers, physicians, hospital administrators, peer review organizations, and policy analysts. These data will be useful for answering such questions as:

- What kinds of conditions are associated with the largest degrees of geographic variation? What conditions show relatively small geographic variation?

- Do areas that tend to have high rates of one type of surgery tend to have high rates of other kinds of surgery?
- Do areas that have high rates of surgery have high rates of hospitalization for related medical conditions?
- What is the relationship between hospitalization rates and post-admission mortality rates?
- What is the relationship between hospitalization rates for a given condition and population mortality for the same condition?
- How do rates of hospitalization and mortality vary by age, sex, and race? Which conditions and procedures exhibit the greatest variations by these demographic characteristics?

Some of these questions have been addressed in previous research, but with smaller and less comprehensive data bases than are available here. It is important to observe that hospitalization rates in high-rate areas may not be inappropriately high and, conversely, that hospitalization rates in low-rate areas may not be inappropriately low. Similarly, different rates of post-admission mortality may or may not be indicative of the quality of care received. To address such issues, additional information and analyses will be needed.

Methods

The data reported in this volume were derived primarily from the Medicare provider analysis and review (MEDPAR) file for calendar year 1986. Almost all hospitalizations of the elderly in short-stay hospitals are covered under Medicare. This file contains one record for each

Medicare-covered stay in a short-stay hospital with a date of discharge in 1986. The MEDPAR file contains dates of admission and discharge, up to five diagnoses (including the principal diagnosis), and up to three procedures (including dates of the procedures). The diagnoses and procedures are coded using the ICD-9-CM. State and county of residence of the beneficiary are also included on each record. Date of death, obtained from the Medicare enrollment files, is appended to the record so that deaths can be tracked after discharge from the hospital. Enrollment data for the aged Medicare population by State and county were obtained from the 1986 Health Insurance Skeleton Write-Off (HISKEW) file, which contains a record on all Medicare beneficiaries entitled during that year, regardless of whether they used any services.

The 1986 MEDPAR file contains data from all inpatient hospital bills received in the Medicare Statistical System as of December 1988. The Bureau of Data Management and Strategy (BDMS) estimates this file to be at least 95 percent complete. Although the file is relatively complete overall, the degree of completeness varies by geographic area. Specifically, BDMS estimates inpatient hospital claims for residents of North Carolina and the District of Columbia to be only 87-90 percent complete; for residents of Maryland, New York, and Oregon, claims are estimated to be 93-94 percent complete. All other States are estimated to be at least 95 percent complete.

Approximately 97 percent of persons 65 years of age or over are covered by Medicare. Only data from records of aged beneficiaries are included in this volume;

that is, records of disabled enrollees under 65 years of age and persons entitled to Medicare solely because of end stage renal disease (ESRD) have been excluded. In addition, aged beneficiaries with ESRD have been excluded. Aged non-ESRD beneficiaries comprise approximately 90 percent of the Medicare population.

Mortality data for all persons 65 years of age or over were obtained from the 1986 Mortality Statistics File, maintained by the National Center for Health Statistics. That file contains information taken from death certificates for every U.S. death in 1986. Causes of death, including underlying cause of death, are coded for every record, using the ICD-9-CM coding system. Age at death, included on the record, was used to identify all deaths occurring in the population aged 65 years or over.

Population counts for all persons 65 years of age or over were obtained from the U.S. Bureau of the Census, which estimated the number of elderly persons residing in each county in 1986, based on counts from the 1980 Decennial Census. To adjust the total deaths per 1,000 persons in each area for age and sex differences, population counts of the elderly in each county by age and sex were needed. These were available for 1985 but not for 1986. Therefore, the 1985 age and sex distribution of the elderly population by county was used in age and sex adjustments, as explained later.

Hospitalizations were assigned to diagnostic categories using the principal diagnosis recorded on the MEDPAR record. A list of the diagnostic categories and their definitions is contained in Appendix B. The diagnostic categories were selected for clinical coherence and to represent reasonably homogeneous groups of patients.

The diagnostic categories were also defined to be broad enough to contain sufficient numbers of cases to estimate meaningful hospitalization and mortality rates at the metropolitan statistical area (MSA) level. The categories include those used in the 1987 hospital mortality data release (Health Care Financing Administration, 1988), plus the following: all cancers; malignant neoplasms of the digestive organs and peritoneum; malignant neoplasms of the trachea, bronchus, and lung; heart disease; ischemic heart disease; acute myocardial infarction; pneumonia and influenza; hernia of abdominal cavity; diseases of gallbladder; and fracture of the neck of the femur. For each diagnostic category, separate tables have been prepared that contain information on every hospitalization with a principal diagnosis within that category and with a date of discharge in 1986.

Each Table 1 contains national data for the specific diagnostic group by age, sex, and race. Because of limitations in data collected by the Social Security Administration, data by race are shown separately only for white persons and black persons. However, the "All persons" category contains data on persons of other races as well.

Tables 2 and 3 contain data by area of residence of the beneficiaries rather than by place of service; that is, it is the beneficiary's residence that determines the geographic area to which a given hospital stay is assigned. Geographic areas are defined in two ways. In Table 2, the data are aggregated by metropolitan and rural areas within each State. In Table 3, the data are aggregated by MSA. MSAs are defined by the U.S. Bureau of the Census and consist

of one or more counties comprising a given metropolitan area.

Tables 2 and 3 contain hospitalization and mortality data adjusted by age and sex. The adjusted data are controlled for differences between the local area and the United States with respect to the age and sex distributions of the populations. The age groups used for adjustment were 65-74 years, 75-84 years, and 85 years or over. The indirect method was used for adjustment. A description of the indirect method of adjustment can be found in Fleiss (1981). The direct method could not be used because of small numbers of hospitalizations for certain conditions in many local areas. Table 1, which contains national data by age, sex, and race, has unadjusted rates.

The rates in this volume are based on data for 100 percent of the beneficiaries. Thus, they are not subject to sampling error. However, the rates could be thought of as a sample of data from one year out of many; an unusual value may simply be a chance occurrence. To give the user a rough indication of whether unusual values might be attributed to chance, statistical tests appropriate for sample data were performed. The rates have been annotated with a plus or minus sign when the difference between an area's rate and the U.S. rate was significant at the .01 level. It should be noted that such tests based on 1 year of data do not necessarily take account of all sources of variation that may cause year-to-year fluctuations. The formula used for testing the rate for significance could not be applied when the rate was zero. Hence, a rate of zero will never be annotated. A more thorough description of this process as well as several cautions are discussed in Appendix A.

The intent of this annotation is to highlight rates that may be unusually high or low while taking into account the element of chance. The user should neither automatically ignore rates that are not annotated nor automatically place undue importance on rates that are annotated.

There are at least two reasons for this. First, a significance level of .01 or smaller may be appropriate for the user whose interests lie primarily in finding those areas most likely to be extremes. However, for the user with an interest in a particular area, a larger significance level may be appropriate, especially if information on past rates led one to anticipate the approximate value of the current rate. In other words, a rate may be meaningfully different for some purposes even if it is not statistically significantly different from the norm at the .01 level. Second, significance tests are heavily dependent on sample size. Large differences may not be statistically significant if sample sizes are small. Thus, the difference should not be uncritically dismissed. Alternatively, with large samples, differences so small that they have no practical importance can show up as statistically significant.

Figures of maps and boxplots have been created using rates from Tables 2 and 3. The maps display State-level rates. The States were grouped into four rate intervals such that each group contains about one-fourth of the States. The boxplots are described in the Appendix.

Explanation of table columns

Number of non-HMO enrollees—This is the total number of aged Medicare enrollees in the demographic category or residing in the geographic area as of July 1, 1986, who

were not enrolled in a health maintenance organization operating under a Medicare risk contract at any time in 1986. The reason for identifying non-HMO enrollees is that HCFA does not receive complete information on hospitalizations incurred by Medicare beneficiaries enrolled under HMO risk contracts. Therefore, complete information on hospital discharges is available only for non-HMO enrollees, and hospitalization and mortality rates were computed only for non-HMO enrollees.

Non-HMO enrollees as a percent of all enrollees—This is the ratio of non-HMO enrollees to the total number of Medicare enrollees times 100.

Number of discharges—This is the number of hospital discharges with a principal diagnosis of the specified condition among non-HMO beneficiaries in the demographic category or residing in the geographic area.

Discharges per 1,000 non-HMO enrollees—This is the number of hospital discharges per 1,000 Medicare enrollees not enrolled in HMOs.

30-day post-admission deaths per 1,000 discharges—This is the number of deaths occurring within 30 days of admission to the hospital per 1,000 discharges. If two hospitalizations for different conditions occurred within 30 days of death, the death was counted for each condition. If two hospitalizations for the same condition occurred within 30 days of death, the death was counted once for that condition. This measure of death rates is similar to but not the same as the measure of 30-day post-admission mortality used in the hospital-specific mortality data releases (Health Care Financing Administration, 1987, 1988). It differs in the following ways:

- It is organized by residence of the patient and not by the hospital where care is rendered.
- It is not adjusted for all of the variables used to adjust mortality in the hospital mortality data release.
- It attributes 30-day post-admission mortality to each hospital stay in 1986 occurring within 30 days of death (with the exception of two hospitalizations for the same condition). For the hospital-specific data release, post-admission mortality is computed using only the last hospitalization in 1986. Despite these differences, the post-admission mortality measure presented here may give some insight into the hospital-specific data. For instance, it can show whether hospitals with high or low rates of post-admission mortality are located in areas with similar patterns of overall population mortality.

30-day post-admission deaths per 1,000 non-HMO enrollees—This is the number of deaths occurring within 30 days of admission to the hospital per 1,000 Medicare enrollees residing within the appropriate geographic area who were not enrolled in an HMO. The numerator of this statistic is the same as the numerator in the previous column, but the denominator is all Medicare non-HMO enrollees, not hospital discharges, yielding a population-based rate of hospitalization-associated mortality. This statistic is included to facilitate the interpretation of the 30-day post-admission death rate per 1,000 discharges. The denominator of that rate is affected by local practice patterns, such as the tendency to hospitalize certain types of patients who might not be hospitalized in other local areas.

Total deaths per 1,000 persons—This column contains data from the National Center for Health Statistics and from the U.S. Bureau of the Census. The numerator of this rate consists of the total number of deaths with the same underlying cause as the condition reported on that table. In the small area tables, the denominator is the number of persons 65 years of age or over residing in the appropriate geographic area divided by 1,000. For example, in the tables displaying hospital use for all cancers, the last column, which is headed "Total deaths per 1,000 persons," contains the death rate from cancer in the population 65 years or over. No data appear in this column for the diagnostic groupings severe injury or fracture of neck of femur because those conditions are never coded as underlying causes of death according to the rules designed for coding cause of death.

The deaths in this column did not necessarily occur to the same people as the post-admission deaths in the previous two columns did. The principal diagnosis for a hospital discharge for a person dying within 30 days of admission need not be the same as the underlying cause of death coded from the death certificate and reported in vital statistics. There are different rules for assigning principal hospital diagnosis and cause of death. Moreover, a person may be hospitalized for one condition and die from another.

The purpose of the last column is to provide a measure of the underlying population morbidity for the conditions presented. This measure of underlying morbidity may help in the interpretation of hospitalization rates and 30-day post-admission death rates. For example, a high population death rate from heart

disease in an area may indicate a high prevalence of this condition; thus, a high hospitalization rate may reflect a relatively high prevalence of heart disease in the area.

The total deaths per 1,000 persons in the United States shown in Table 1 (the table broken down by age, sex, and race) are slightly different from those shown in Tables 2 and 3 (the tables broken down by geographic area). The total deaths per 1,000 persons in the United States shown in Table 1 were computed using 1986 data only. To do age and sex adjustments for Tables 2 and 3, it was necessary to use 1985 data, which yielded a slightly different population death rate.

These data on deaths per 1,000 persons should be useful in generating hypotheses about the use of inpatient hospital services and will indicate areas for future research. Specifically, these data may help clarify the relationship between prevalence of illness and hospitalization rates.

Notes on table stubs

Table 1—Data on racial groups other than white and black are not shown separately because of small numbers and because a substantial number of beneficiaries are of unknown race. Consequently, white and black subtotals do not add to overall totals for the Medicare aged population.

Table 2—All beneficiaries in each State reside in either a metropolitan or rural (nonmetropolitan) county. Therefore, metropolitan and rural subtotals add to State totals.

Table 3—Many MSAs cross State boundaries. Each MSA is listed under the State in which the majority of persons in that MSA reside. Data listed under a

specific MSA pertain to all residents of that MSA, including those residing in States other than the one where the MSA is listed. Consequently, MSA subtotals do not necessarily add to statewide metropolitan area totals.

Percent of deaths associated with a hospitalization

In Tables C-1 and C-2 (Appendix C), the percent of all area deaths in 1986 that occurred within 30 days of a hospital admission is shown. These data may help in the interpretation of post-admission mortality rates, which can be affected by local patterns of medical practice and other factors not necessarily directly related to the quality of hospital care. For example, in some locales, terminally ill patients may frequently be hospitalized near the time of death; in other areas, patients may be cared for more frequently in nursing homes and hospices or at home. Such practices might have a substantial impact on deaths within 30 days of admission per 1,000 discharges or per 1,000 enrollees. Similarly, the breadth and quality of emergency medical services might have a large effect on the number of heart attack and trauma victims who reach the hospital while still alive and die in the hospital.

Nationwide, 48.0 percent of deaths occurred within 30 days of a hospital admission in 1986. The percentage was slightly higher in rural areas (50.6 percent) than in metropolitan areas (47.0). Among the four census regions, the percentage of deaths occurring within 30 days of a hospital admission was highest in the South (50.2) and lowest in the West (45.6). Among the individual States, Mississippi had the

highest percentage of deaths within 30 days of a hospital admission (55.1 percent), and the District of Columbia had the lowest (33.8 percent).

Data tape

The information used to compute the rates presented in this volume will be available on a small area basis on a public use tape. Persons interested in obtaining additional information about the public use tape should contact the Bureau of Data Management and Strategy, Office of Statistics and Data Management, Room 3-A-12, Security Office Park, 6325 Security Boulevard, Baltimore, Maryland 21207.

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Totals: All diagnoses combined

Before presenting data for specific diagnostic groups, hospitalization and mortality information are presented here for all hospital stays combined. In 1986, 27.6 million persons 65 years of age or over were enrolled in Medicare's hospital insurance, or Part A, program. Of these, about 900,000 were enrolled in health maintenance organizations (HMOs) sometime in 1986. The vast majority, however, 26.7 million persons, or 96.7 percent, were non-HMO enrollees, whose hospital and mortality experience are shown in Table 1. These Medicare enrollees had 8.7 million short-stay hospitalizations in 1986, for a rate of 327.09 discharges per 1,000 enrollees. For these 8.7 million stays, the mortality rate within 30 days of admission (i.e., the case fatality rate) was 79.6 deaths per 1,000 discharges, or nearly 8 percent.

According to data from U.S. vital records, maintained by the National Center for Health Statistics (shown in the last column of Table 1), the total 1986 death rate for persons aged 65 years or over was 51.02 deaths per 1,000 persons. The 30-day post-admission mortality rate was 26.05 deaths per 1,000 enrollees. Taken together, these facts indicate that about one-half of the aged who died in 1986 had been hospitalized within 30 days of death.

Age and sex patterns

Since Medicare was first implemented, there has been a higher proportion of women than men enrollees and an even

higher proportion of women in the older age groups. Despite the older age distribution for women, the overall hospital discharge rate has been consistently higher for men than women. In 1986, the overall hospital discharge rate for men was 354.81 discharges per 1,000 enrollees, about 15 percent higher than the 308.69 rate for women (Table 1). In each of the three age groups, the discharge rate for men was higher than the rate for women, ranging from 20 to 24 percent higher.

Among the population aged 65 years or over, hospital use rises sharply with age for both men and women, the rate generally doubling from the age group 65-74 years to the age group 85 years or over. For men, the 1986 discharge rate rose from 291.78 discharges per 1,000 at age 65-74 to 567.97 at age 85 years or over. The corresponding figures for women were 242.18 discharges per 1,000 at ages 65-74 years and 473.42 at age 85 years or over.

The 30-day post-admission death rates per 1,000 discharges and per 1,000 enrollees were notably higher for men than for women in all age groups. For example, in the age group 65-74 years, the 30-day post-admission mortality rate per 1,000 discharges was 36 percent higher for men than for women (65.9 versus 48.3).

As is generally known, the mortality rate in the United States (deaths per 1,000 persons) has been consistently higher for men than for women. In 1986, in the age group 65-74, the rate for men was 77 percent greater than the rate for women

(37.01 deaths per 1,000 versus 20.91 deaths per 1,000). In the age group 75-84, the mortality rate for men was 62 percent greater than that for women, and in the oldest age group, 85 years or over, the rate for men was 27 percent greater.

Patterns by race

When Medicare was first implemented in 1966, hospital discharge rates were considerably higher for white enrollees than for black enrollees in all age groups. Over time, the rates became similar. As shown in Table 1, by 1986, the hospitalization rates for white persons and black persons were nearly equal across all age and sex groups. However, in the age group 85 years or over, the rates for white men were higher than those for black men.

The 30-day post-admission mortality rates per 1,000 discharges and per 1,000 enrollees were generally a little lower for white persons than for black persons within the same age and sex groups except for the oldest age group, 85 years or over. In that age group, post-admission mortality rates were lower for black persons. For example, there were 147.0 deaths per 1,000 discharges for black men 85 or over versus 161.8 deaths per 1,000 discharges for white men.

As shown in the last column of Table 1, the pattern of death rates for black and white persons was the same as the pattern for 30-day post-admission mortality rates. The numbers of deaths per 1,000 persons were generally a little lower for white than

black persons within the same age and sex groups. However, among persons 85 years or over, the rates were lower for black than white persons.

Variations by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region, division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan statistical area (MSA) level are shown in Table 3. Figures 1–4 were derived from the detailed data in these tables.

Discharge rates

As shown in Figure 1, two areas of the United States had high hospital discharge rates: the Southeast and four rural States in the Rocky Mountain and Great Plains areas: North Dakota, South Dakota, Montana, and Wyoming. States with the lowest discharge rates were scattered throughout the country. In 1986, the discharge rate by State ranged from a high of 443.70 discharges per 1,000 enrollees in Mississippi to lows of 223.71 discharges in Hawaii and 254.42 in Connecticut (Table 2). Thus, there was almost a twofold difference in the rate of hospitalization across the United States.

The variation in discharge rates across and within the U.S. census divisions is shown in the boxplots in Figure 2. The highest median rate was found in the East South Central Division, and the lowest median rate was in the Pacific Division. The greatest range in the within-division discharge rates was found in the South Atlantic Division.

Post-admission death rates

The variation in 30-day post-admission mortality rates per 1,000 discharges across the Nation is shown in Figure 3. No particular regional patterns predominate. The range in this case fatality rate by State was from a low of 59.6 post-admission deaths per 1,000 discharges in North Dakota to a high of 96.2 post-admission deaths per 1,000 discharges in Nevada.

Population death rates

The variation across the Nation in the 1986 mortality rates for persons aged 65 years or over is shown in Figure 4. States with the highest mortality rates were all found east of the Mississippi River. States with the lowest mortality were found west of the Mississippi River, with the exception of Florida. Mortality rates by State ranged from lows of 37.81 deaths per 1,000 persons in Hawaii and 43.92 deaths per 1,000 persons in North Dakota to highs of 56.59 deaths per 1,000 in the District of Columbia and 55.70 deaths per 1,000 in Delaware.

Correlations between rates

It has been hypothesized that areas with high hospitalization rates (high discharges per 1,000 enrollees) may tend to have relatively low rates of 30-day post-admission deaths per 1,000 discharges and, conversely, that areas with low discharge rates may tend to have high 30-day post-admission mortality rates. High hospitalization rates may reflect a less severe patient mix; low hospitalization rates may reflect a more severe patient mix and therefore have an impact on the case fatality rate. To test this

hypothesis, a correlation coefficient was calculated using the hospital discharge rates and 30-day post-admission mortality rates per 1,000 discharges for all 365 MSAs and rural areas. The result was a correlation coefficient of $-.42$, providing moderate support for the hypothesis just stated.

The 30-day post-admission death rate per 1,000 enrollees is presented to help the reader put the case fatality rate (post-admission deaths per 1,000 discharges) into perspective. The post-admission death rate per 1,000 enrollees is the product of the discharge rate and the 30-day post-admission death rate per 1,000 discharges. It reflects the combined effect of these two measures on hospital-associated deaths for an area's population. For example, compared with the United States, some States have a high case fatality rate but a low rate of 30-day post-admission deaths per 1,000 enrollees because their discharge rate is significantly low. This is the pattern for Connecticut, New York, North Carolina, California, and Hawaii. Alternatively, some States have a low case fatality rate but a high rate of 30-day post-admission deaths per 1,000 enrollees because their discharge rate is high. This is the pattern for Pennsylvania, Kentucky, Tennessee, Alabama, Mississippi, and Louisiana. The 30-day post-admission death rate per 1,000 discharges is better understood when viewed along with the hospitalization rate.

Wide geographic variations in the hospital discharge rate have raised questions as to the extent to which these differences reflect practice patterns and/or underlying differences in the health status of the populations. A correlation coefficient was calculated using data on hospital discharge rates and the population mortality rates

(deaths per 1,000 aged persons) for all 365 MSAs and rural areas. The result was a correlation coefficient of .42, indicating a moderate relationship between the hospital use rate and the population death rate.

Urban-rural patterns

In 1986, approximately 73 percent of non-HMO Medicare enrollees 65 years of age or over lived in metropolitan statistical areas and the remaining 27 percent resided in rural counties. In the Nation as a whole, the discharge rate per 1,000 enrollees was nearly 12 percent higher in the combined rural areas (353.58) than in the MSAs combined (316.97). In each census region, the rate of hospitalization was greater in the rural areas than in the MSAs combined. In contrast, the 30-day post-admission mortality rate per 1,000 discharges in each census region was lower in the rural areas than in the urban areas, likely reflecting in part a less severe patient case mix in the rural areas.

In the United States as a whole, the population death rate was slightly lower in rural areas (50.73) than in the MSAs combined (51.34). Examining the data by census region indicates that the number of deaths per 1,000 persons was virtually the same for rural areas as for the MSAs combined in the Northeast and West Regions. In the North Central Region, the death rate was lower in the rural areas (49.60) than in the MSAs combined (53.18). In the South, the reverse was true, with a higher death rate in the rural areas (52.07) than in the MSAs combined (50.67).

Table 1. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

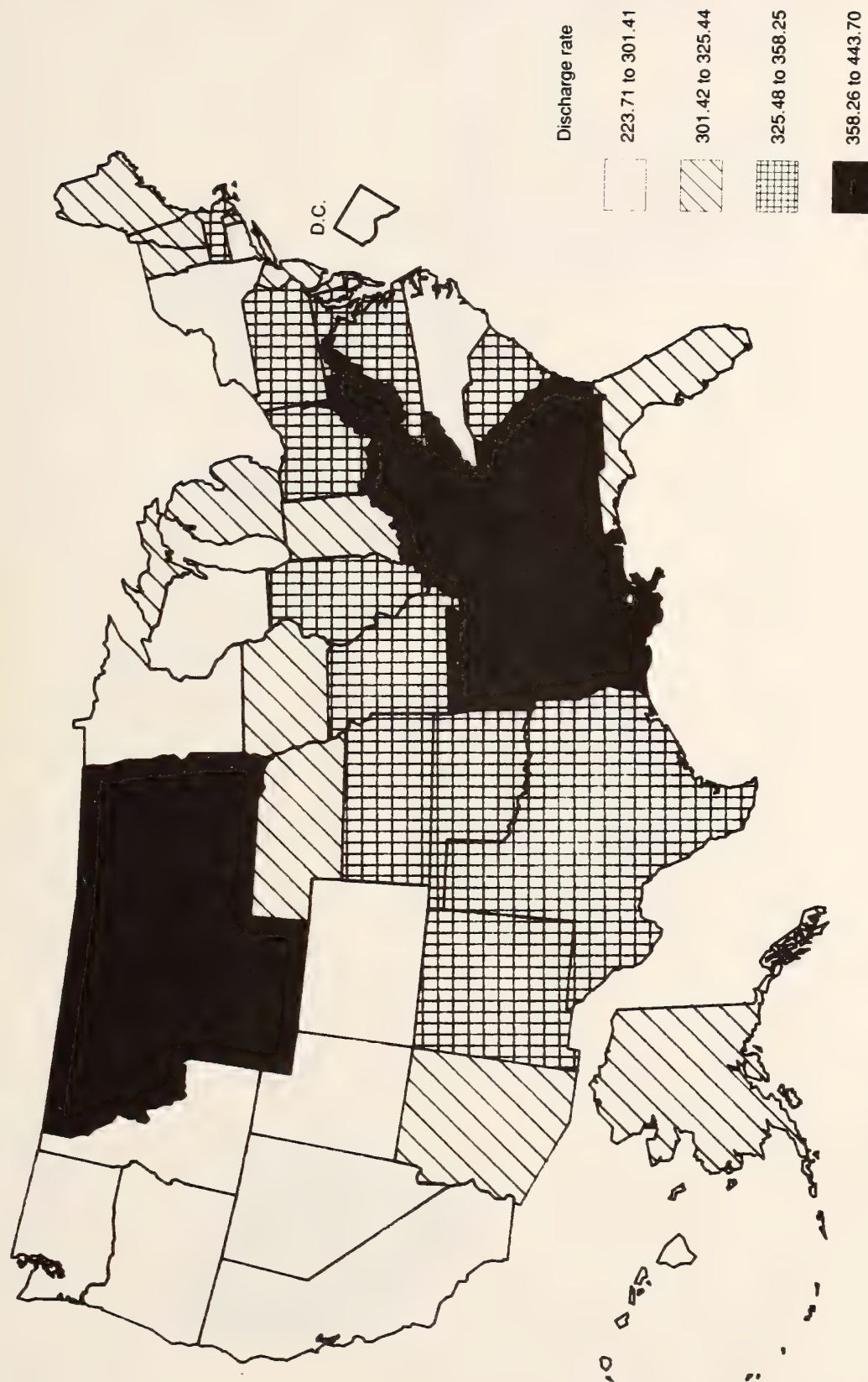
Age, sex, and race	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
All persons (1)	26,698,924	96.70	8,732,875	327.09	79.6	26.05	51.02
65-74 years	16,162,594	96.33	4,264,188	263.83	56.8	14.98	28.01
75-84 years	8,020,447	96.96	3,213,125	400.62	87.3	34.97	63.48
85 years or over	2,515,883	98.32	1,255,562	499.05	137.6	68.66	153.98
Men	10,650,991	96.01	3,779,054	354.81	89.3	31.68	59.97
65-74 years	7,056,445	95.90	2,058,900	291.78	65.9	19.24	37.01
75-84 years	2,912,366	96.02	1,332,696	457.60	104.8	47.94	83.52
85 years or over	682,180	97.22	387,458	567.97	160.2	90.99	181.85
Women	16,047,933	97.16	4,953,821	308.69	72.3	22.30	44.92
65-74 years	9,106,149	96.66	2,205,288	242.18	48.3	11.69	20.91
75-84 years	5,108,081	97.51	1,880,429	368.13	74.9	27.57	51.51
85 years or over	1,833,703	98.74	868,104	473.42	127.5	60.35	142.97
White	23,574,066	96.62	7,749,763	328.74	79.6	26.16	51.00
65-74 years	14,207,064	96.23	3,754,285	264.25	56.2	14.86	27.41
75-84 years	7,134,499	96.88	2,869,016	402.13	87.1	35.03	63.11
85 years or over	2,232,503	98.26	1,126,462	504.57	138.3	69.79	156.38
Men	9,391,016	95.94	3,351,813	356.92	89.3	31.86	59.79
65-74 years	6,216,472	95.83	1,820,018	292.77	65.3	19.11	36.34
75-84 years	2,573,989	95.94	1,184,930	460.35	104.9	48.28	83.41
85 years or over	600,555	97.12	346,665	577.57	161.8	93.44	185.75
Women	14,183,050	97.07	4,397,950	310.08	72.2	22.39	45.02
65-74 years	7,990,592	96.55	1,934,267	242.07	47.7	11.55	20.32
75-84 years	4,560,510	97.42	1,684,086	369.28	74.6	27.55	51.08
85 years or over	1,631,948	98.69	779,597	477.71	127.9	61.09	145.02
Black	1,991,943	97.86	656,484	329.57	84.9	28.00	56.13
65-74 years	1,213,014	97.54	328,329	270.67	66.2	17.92	36.98
75-84 years	583,429	98.11	232,678	398.81	92.7	36.95	73.38
85 years or over	195,500	99.11	95,477	488.37	130.7	63.82	134.51
Men	792,788	97.49	280,298	353.56	94.8	33.51	67.61
65-74 years	519,305	97.28	152,210	293.10	76.6	22.45	47.90
75-84 years	215,401	97.67	97,666	453.41	106.8	48.44	92.91
85 years or over	58,082	98.74	30,422	523.78	147.0	76.98	154.88
Women	1,199,155	98.10	376,186	313.71	77.6	24.35	48.43
65-74 years	693,709	97.74	176,119	253.88	57.2	14.52	28.92
75-84 years	368,028	98.37	135,012	366.85	82.4	30.22	61.49
85 years or over	137,418	99.26	65,055	473.41	123.1	58.26	125.10

(1) Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

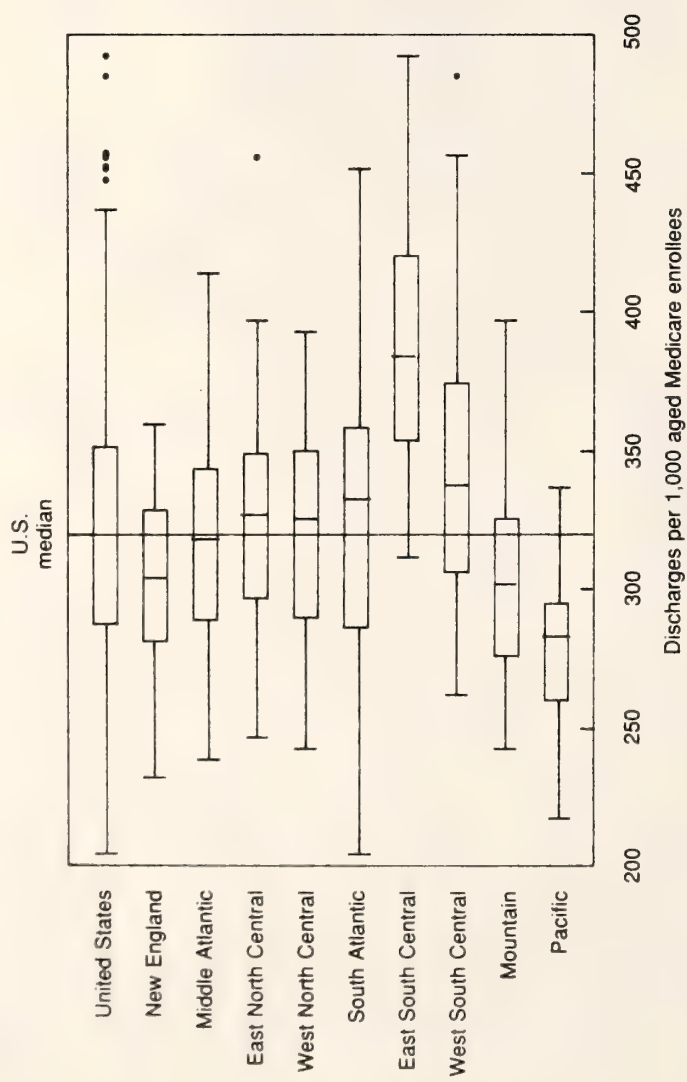
SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Figure 1. All diagnostic groups: Short-stay hospital discharges per 1,000 aged Medicare enrollees, by State: 1986



NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included.
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System.

Figure 2. All diagnostic groups: Short-stay hospital discharges per 1,000 aged Medicare enrollees for rural and metropolitan statistical areas, by division: United States, 1986



Outliers for discharges per 1,000 enrollees		
Area	Rural or metropolitan statistical area	Rate
United States	Rural counties, TN	449.85
	Biloxi-Gulport, MS	451.87
	Florence, SC	451.98
	Rural counties, LA	455.78
	Steubenville, OH-WV	456.51
	Rural counties, MS	458.09
	Monroe, LA	485.89
East North Central	Pascagoula, MS	491.64
	Steubenville, OH-WV	456.51
West South Central	Monroe, LA	485.89

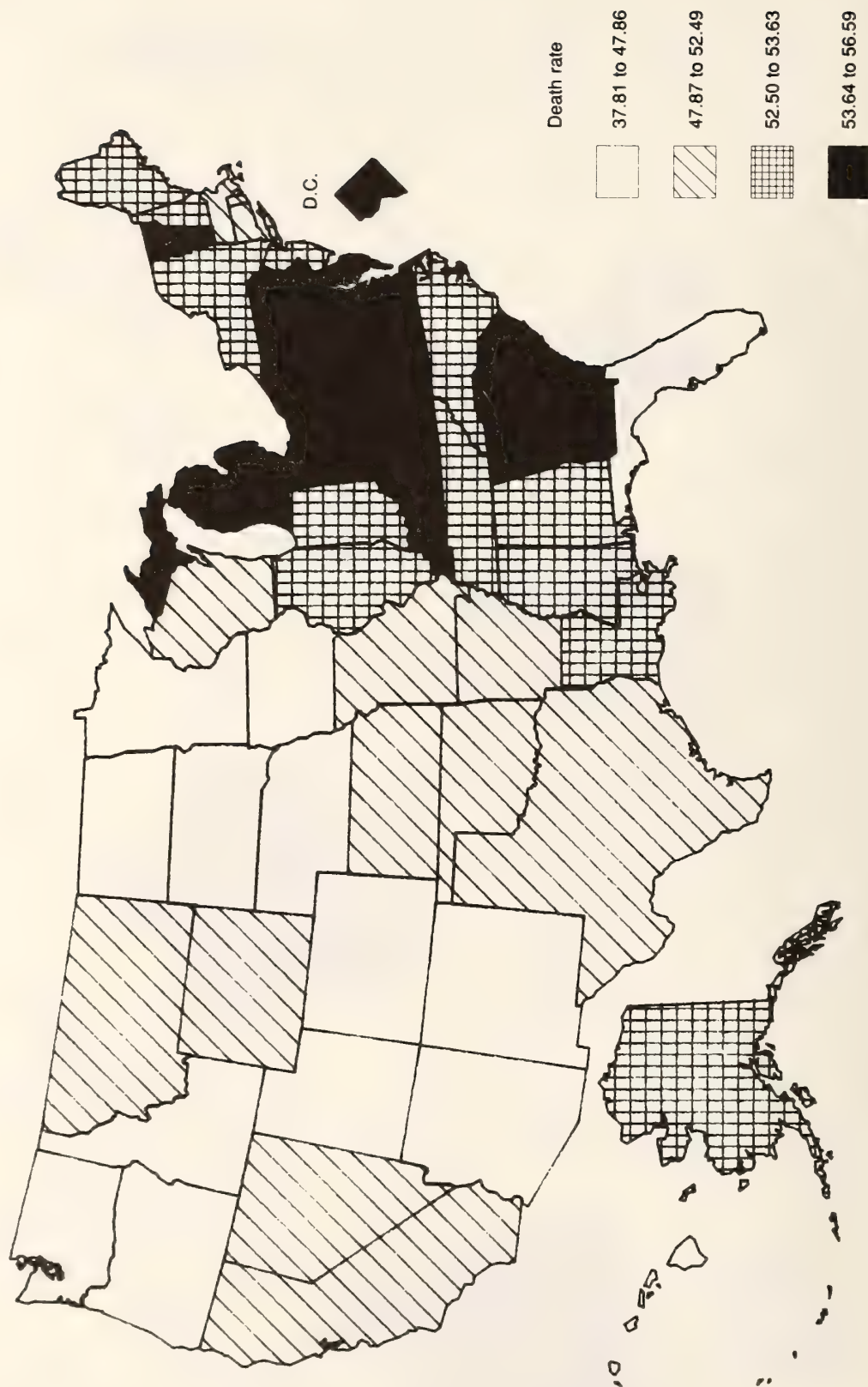
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Figure 3. All diagnostic groups: Thirty-day post-admission deaths per 1,000 aged Medicare short-stay hospital discharges, by State: 1986



NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included.
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System.

Figure 4. All diagnostic groups: Deaths per 1,000 aged population, by State: 1986



SOURCES: Population death rates were derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	8,732,875	327.09	79.6	26.04	51.17
Metropolitan	19,363,284	95.80	6,123,746	316.97-	81.1+	25.73-	51.34+
Rural	7,335,640	99.16	2,609,129	353.98+	76.3-	26.85+	50.73-
Northeast	6,276,897	98.04	1,978,122	315.00-	80.9+	25.62-	53.18+
Metropolitan	5,564,648	97.84	1,730,424	310.89-	81.7+	25.57-	53.14+
Rural	712,249	99.69	247,698	347.05+	75.0-	25.98	53.51+
New England	1,569,313	96.20	485,945	307.97-	79.6	24.71-	51.75+
Metropolitan	1,342,886	95.66	414,450	307.04-	80.2	24.85-	51.73+
Rural	226,427	99.53	71,495	313.44-	76.1-	23.86-	51.85
Maine	153,209	99.88	49,240	318.29-	77.2	24.51-	53.11+
Metropolitan	82,345	99.89	25,449	306.86-	77.3	23.61-	53.02
Rural	70,864	99.87	23,791	331.52	77.2	25.53	53.21
New Hampshire	114,752	98.98	36,104	314.20-	81.5	25.59	53.50+
Metropolitan	74,135	98.55	22,563	304.05-	85.5+	25.82	54.62+
Rural	40,617	99.77	13,541	332.71	75.1	25.16	51.41
Vermont	62,781	99.82	19,721	311.12-	77.5	24.11-	54.10+
Metropolitan	10,422	99.91	3,082	293.75-	84.4	25.32	55.38
Rural	52,359	99.80	16,639	314.57-	76.2	23.87-	53.85+
Massachusetts	709,478	93.75	238,636	333.02+	78.0-	26.27	52.49+
Metropolitan	659,025	93.40	224,435	336.97+	78.2	26.69+	52.77+
Rural	50,453	98.58	14,201	280.91-	73.1-	20.69-	48.39-
Rhode Island	132,332	97.59	41,512	313.48-	80.3	25.28	51.58
Metropolitan	132,332	97.59	41,512	313.48-	80.3	25.28	51.58
Rural	0	0.00	0	0.00	0.0	0.00	0.00
Connecticut	396,761	97.56	100,732	254.42-	84.3+	21.54-	48.97-
Metropolitan	384,627	97.50	97,409	253.84-	84.3+	21.51-	48.93-
Rural	12,134	99.66	3,323	272.79-	84.3	22.64	50.32
Middle Atlantic	4,707,584	98.68	1,492,177	317.36-	81.3+	25.93	53.68+
Metropolitan	4,221,762	98.55	1,315,974	312.12-	82.2+	25.80-	53.61+
Rural	485,822	99.76	176,203	362.84+	74.5-	26.99+	54.28+
New York	2,143,249	98.98	633,727	293.30-	82.8+	24.56-	52.91+
Metropolitan	1,922,371	98.89	557,041	287.43-	83.9+	24.42-	52.80+
Rural	220,878	99.75	76,686	344.38+	74.7-	25.82	53.88+

See notes at end of table.

Table 2. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Jersey	916,155	97.84	280,438	308.89-	86.9+	27.16+	53.63+
Metropolitan	916,155	97.84	280,438	308.89-	86.9+	27.16+	53.63+
Rural	0	0.00	0	0.00	0.0	0.00	0.00
Pennsylvania	1,648,180	98.75	578,012	353.91+	76.7-	27.09+	54.77+
Metropolitan	1,383,236	98.56	478,495	349.20+	77.2-	26.92+	54.79+
Rural	264,944	99.78	99,517	378.48+	74.4-	27.99+	54.64+
North Central	6,901,975	96.39	2,313,189	333.07+	79.5	26.42+	51.86+
Metropolitan	4,398,761	95.22	1,459,281	331.98+	81.5+	27.03+	53.18+
Rural	2,503,214	98.51	853,908	334.96+	76.1-	25.39-	49.60-
East North Central	4,745,430	97.76	1,580,470	333.58+	81.3+	27.07+	53.38+
Metropolitan	3,453,558	97.13	1,142,746	332.50+	82.7+	27.46+	54.08+
Rural	1,291,872	99.47	437,724	336.47+	77.8-	26.05	51.54
Ohio	1,263,869	99.46	438,991	349.60+	79.5	27.56+	54.64+
Metropolitan	987,528	99.60	341,950	349.41+	79.8	27.68+	55.00+
Rural	276,341	98.95	97,041	350.24+	78.7	27.15+	53.41+
Indiana	623,062	97.86	199,741	321.13-	86.3+	27.52+	53.62+
Metropolitan	399,457	97.01	126,755	318.78-	87.3+	27.65+	54.30+
Rural	223,605	99.41	72,986	325.31	84.6+	27.29+	52.45+
Illinois	1,265,011	95.90	438,226	345.78+	80.1	27.89+	52.96+
Metropolitan	952,934	94.73	322,662	339.58+	82.0+	28.07+	53.77+
Rural	312,077	99.68	115,564	364.36+	75.0-	27.35+	50.52
Michigan	982,444	96.86	317,238	325.47	84.0+	27.31+	54.56+
Metropolitan	744,347	96.06	239,403	324.40-	85.9+	27.91+	54.93+
Rural	238,097	99.44	77,835	328.83	77.8	25.43	53.35+
Wisconsin	611,044	99.60	186,274	301.41-	78.5	23.61-	49.62-
Metropolitan	369,292	99.43	111,976	300.68-	81.1	24.27-	50.55
Rural	241,752	99.86	74,298	302.49-	74.6-	22.62-	48.23-
West North Central	2,156,545	93.50	732,719	331.97+	75.7-	25.08-	48.85-
Metropolitan	945,203	88.82	316,535	330.13+	77.6-	25.55-	50.31-
Rural	1,211,342	97.51	416,184	333.39+	74.3-	24.72-	47.67-
Minnesota	397,258	77.30	118,790	289.89-	80.7	23.36-	47.86-
Metropolitan	187,915	67.07	55,223	285.71-	83.0+	23.60-	48.83-
Rural	209,343	89.55	63,567	293.62-	78.8	23.15-	46.72-

See notes at end of table.

Table 2. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division. State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Iowa	404,057	99.37	127,091	307.10-	76.8-	23.43-	47.66-
	136,818	98.24	44,616	322.22	77.8	24.98	49.41-
Metropolitan Rural	267,239	99.96	82,475	299.51-	76.3-	22.66-	46.83-
Missouri	655,875	98.17	235,344	353.86+	77.2-	27.29+	52.20+
	383,255	96.99	138,010	356.48+	76.8-	27.41+	53.05+
Metropolitan Rural	272,620	99.88	97,334	350.21+	77.8	27.13+	51.01
North Dakota	85,433	98.28	33,008	376.54+	59.6-	22.55-	43.92-
	22,964	98.14	7,736	329.69	64.0-	21.13-	44.84-
Metropolitan Rural	62,469	98.34	25,272	393.67+	58.2-	23.07-	43.58-
South Dakota	96,216	99.59	37,646	380.04+	63.9-	24.34-	46.22-
	20,427	99.92	7,291	353.22+	67.7-	23.81	47.11-
Metropolitan Rural	75,789	99.51	30,355	387.09+	63.0-	24.48-	46.01-
Nebraska	209,910	98.52	67,840	313.58-	76.9-	24.26-	47.61-
	70,076	95.86	21,681	305.47-	78.5	23.92-	49.02-
Metropolitan Rural	139,834	99.91	46,159	317.54-	76.2-	24.41-	46.94-
Kansas	307,796	95.82	113,000	358.25+	73.8-	26.42	48.10-
	123,748	93.24	41,978	336.24+	76.4	25.62	48.50-
Metropolitan Rural	184,048	97.63	71,022	372.67+	72.4-	26.93	47.86-
South	8,980,101	97.94	3,117,294	348.51+	78.7-	27.36+	51.17
	5,757,016	96.87	1,882,207	329.02+	79.7	26.17	50.67-
Metropolitan Rural	3,223,085	99.91	1,235,087	383.07+	77.2-	29.45+	52.07+
South Atlantic	4,668,855	96.31	1,511,522	326.68	79.8	26.04	50.63-
	3,313,125	94.94	1,042,313	316.92-	79.3	25.12-	49.71-
Metropolitan Rural	1,355,730	99.84	469,209	350.69+	81.0+	28.30+	53.00+
Delaware	70,251	99.94	22,292	322.50	82.3	26.25	55.70+
	44,355	99.95	13,301	304.90-	79.6	23.93-	55.67+
Metropolitan Rural	25,896	99.94	8,991	352.62+	86.2	30.21+	55.75+
Maryland	436,606	99.49	141,923	329.11	79.6	26.11	55.04+
	395,091	99.44	128,615	329.94	79.3	26.09	54.79+
Metropolitan Rural	41,515	99.95	13,308	321.24	82.7	26.28	57.40+
District of Col.	66,196	99.75	18,460	274.32-	73.5-	19.62-	56.59+
	66,196	99.75	18,460	274.32-	73.5-	19.62-	56.59+
Metropolitan Rural	0	0.00	0	0.00	0.0	0.00	0.00

See notes at end of table.

Table 2.—All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Virginia	566,135	99.91	188,780	337.69+	78.8	26.63+	54.16+
	355,193	99.87	111,730	319.66-	80.7	25.73	54.38+
	210,942	99.97	77,050	367.77+	76.2-	28.11+	53.79+
West Virginia	244,259	98.98	92,245	378.82+	84.6+	31.65+	55.59+
	90,704	97.39	33,950	377.17+	85.7+	32.02+	55.74+
	153,555	99.95	58,295	379.79+	84.0+	31.44+	55.50+
North Carolina	689,138	99.93	179,660	265.53-	92.1+	24.48-	52.61+
	346,905	99.89	84,168	246.93-	92.8+	22.88-	52.05
	342,233	99.96	95,492	284.42-	91.6+	26.10	53.17+
South Carolina	329,020	99.44	110,907	346.04+	79.4	27.22+	54.59+
	186,873	99.05	60,603	333.57+	79.0	26.09	54.93+
	142,147	99.95	50,304	362.38+	79.9	28.69+	54.15+
Georgia	561,716	99.71	213,247	385.44+	79.6	30.46+	55.22+
	313,319	99.54	111,320	361.85+	82.0+	29.43+	55.63+
	248,397	99.93	101,927	414.99+	77.0-	31.73+	54.72+
Florida	1,705,534	90.97	544,008	318.83-	75.7-	24.27-	44.97-
	1,514,489	90.04	480,166	316.24-	75.9-	24.15-	44.90-
	191,045	99.17	63,842	339.83+	74.3-	25.22	45.60-
East South Central	1,726,272	99.80	696,404	403.42+	74.4-	29.76+	53.68+
	873,594	99.64	320,243	368.74+	76.9-	28.08+	54.02+
	852,678	99.97	376,161	438.55+	72.3-	31.43+	53.36+
Kentucky	422,657	99.70	169,194	399.81+	76.9-	30.65+	54.63+
	183,264	99.37	65,057	356.18+	79.5	28.07+	54.71+
	239,393	99.96	104,137	432.92+	75.3-	32.58+	54.57+
Tennessee	550,327	99.65	218,279	398.02+	74.9-	29.65+	53.22+
	342,007	99.46	124,720	366.36+	76.5-	27.88+	53.51+
	208,320	99.96	93,559	449.85+	72.6-	32.54+	52.75+
Alabama	463,131	99.97	178,716	387.55+	74.8-	28.53+	53.61+
	281,960	99.97	104,492	373.88+	76.9-	28.30+	54.28+
	181,171	99.97	74,224	408.60+	71.9-	28.88+	52.61+
Mississippi	290,157	99.98	130,215	443.70+	70.0-	30.57+	53.31+
	66,363	99.96	25,974	394.05+	72.7-	28.22+	53.66+
	223,794	99.98	104,241	458.09+	69.3-	31.23+	53.22+

See notes at end of table.

Table 2. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
West South Central	2,584,974	99.74	909,368	350.88+	80.2	28.09+	50.52-
Metropolitan	1,570,297	99.59	519,651	332.42+	82.3+	27.29+	50.96
Rural	1,014,677	99.97	389,717	378.94+	77.5-	29.26+	49.89-
Arkansas	321,739	99.96	121,460	375.45+	77.8	29.09+	51.32
Metropolitan	100,966	99.98	34,943	345.41+	79.3	27.26	52.71
Rural	220,773	99.95	86,517	389.13+	77.2-	29.91+	50.69
Louisiana	415,968	99.98	171,431	410.64+	73.9-	29.69+	52.67+
Metropolitan	268,137	99.98	102,897	385.23+	77.0-	29.15+	53.21+
Rural	147,831	99.99	68,534	455.78+	69.3-	30.63+	51.76
Oklahoma	378,716	99.02	135,854	354.66+	80.0	28.44+	51.01
Metropolitan	180,038	98.00	60,116	332.58+	81.2	27.02	50.83
Rural	198,678	99.96	75,738	374.39+	79.1	29.69+	51.18
Texas	1,468,551	99.81	480,623	327.48	83.1+	27.31+	49.61-
Metropolitan	1,021,156	99.73	321,695	317.18-	84.5+	26.85+	50.23-
Rural	447,395	99.97	158,928	350.50+	80.4	28.31+	48.31-
West	4,539,951	93.08	1,324,270	292.36-	80.2	23.48-	47.59-
Metropolitan	3,642,859	91.96	1,051,834	289.18-	81.8+	23.74-	47.72-
Rural	897,092	97.88	272,436	305.36-	73.7-	22.42-	47.03-
Mountain	1,200,638	94.36	363,471	305.42-	74.7-	22.74-	46.82-
Metropolitan	720,893	92.10	208,807	293.05-	77.4-	22.62-	46.67-
Rural	479,745	97.98	154,664	323.86-	71.0-	22.91-	47.08-
Montana	97,248	99.90	35,594	365.64+	64.7-	23.67-	48.32-
Metropolitan	21,173	99.90	7,355	349.56+	66.3-	23.25-	46.09-
Rural	76,075	99.91	28,239	370.08+	64.3-	23.79-	48.94-
Idaho	109,822	99.77	32,198	293.90-	72.3-	21.00-	47.57-
Metropolitan	18,471	99.90	4,435	242.21-	70.0	16.64-	46.18-
Rural	91,351	99.74	27,763	304.27-	72.6-	21.87-	47.85-
Wyoming	42,408	99.91	15,941	375.99+	71.0-	26.70	50.45
Metropolitan	12,265	99.93	4,135	340.43	72.9	24.72	49.10
Rural	30,143	99.89	11,806	390.27+	70.4-	27.49	50.99
Colorado	266,663	94.73	76,237	285.35-	76.3-	21.74-	47.34-
Metropolitan	201,737	95.23	58,362	289.65-	76.6-	22.24-	47.70-
Rural	64,926	93.22	17,875	272.15-	75.3	20.23-	46.24-

See notes at end of table.

Table 2. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
New Mexico	125,371	92.49	41,295	330.59	71.4-	23.76-	45.22-
Metropolitan	51,612	85.86	15,156	297.05-	73.3-	22.03-	45.74-
Rural	73,759	97.76	26,139	353.74+	70.3-	24.93	44.82-
Arizona	348,748	91.33	104,395	304.84-	74.9-	22.75-	44.83-
Metropolitan	257,931	89.11	76,986	302.69-	76.0-	22.91-	44.68-
Rural	90,817	98.31	27,409	311.06-	71.9-	22.27-	45.35-
Utah	128,579	99.92	34,866	272.72-	74.8-	20.01-	47.11-
Metropolitan	93,319	99.94	24,197	261.35-	77.7	19.87-	47.32-
Rural	35,260	99.88	10,669	302.56-	68.4-	20.38-	46.56-
Nevada	81,799	86.15	22,945	292.63-	96.2+	28.29+	51.83
Metropolitan	64,385	84.73	18,181	295.14-	97.0+	28.71+	51.78
Rural	17,414	91.83	4,764	283.44-	93.2+	26.76	52.02
Pacific	3,339,313	92.62	960,799	287.71-	82.2+	23.74-	47.86-
Metropolitan	2,921,966	91.93	843,027	288.23-	82.9+	24.01-	47.97-
Rural	417,347	97.77	117,772	284.04-	77.2-	21.86-	46.97-
Washington	461,706	92.41	129,107	279.45-	79.4	22.09-	47.43-
Metropolitan	346,977	90.86	95,668	275.41-	81.1	22.26-	47.72-
Rural	114,729	97.42	33,439	291.69-	74.5-	21.56-	46.45-
Oregon	303,778	86.84	80,081	262.72-	78.1	20.32-	47.16-
Metropolitan	181,677	80.38	46,558	253.39-	80.8	20.24-	47.28-
Rural	122,101	98.65	33,523	276.88-	74.2-	20.45-	46.93-
California	2,477,248	93.71	728,965	294.25-	83.2+	24.63-	48.36-
Metropolitan	2,330,007	93.36	686,741	294.53-	83.2+	24.68-	48.34-
Rural	147,241	99.57	42,224	289.85-	82.3	23.91-	48.72-
Alaska	16,348	99.78	4,848	308.91-	66.5-	20.15-	53.00
Metropolitan	5,625	99.75	1,639	312.18	73.5	22.83	54.09
Rural	10,723	99.80	3,209	307.26-	63.1-	18.90-	52.45
Hawaii	80,233	83.64	17,798	223.71-	86.1+	19.45-	37.81-
Metropolitan	57,680	83.31	12,421	218.81-	88.2+	19.57-	37.59-
Rural	22,553	84.47	5,377	235.91-	81.4	19.17-	38.40-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
United States	26,698,924	96.70	8,732,875	327.09	79.6	26.04	51.17
Northeast	6,276,897	98.04	1,978,122	315.00-	80.9+	25.62-	53.18+
New England	1,569,313	96.20	485,945	307.97-	79.6	24.71-	51.75+
Maine	153,209	99.88	49,240	318.29-	77.2	24.51-	53.11+
Bangor, ME	16,035	99.87	4,832	298.88-	85.7	25.57	55.89
Lewiston-Auburn, ME	13,464	99.93	4,469	328.91	73.2	23.71	54.25
Portland, ME	52,846	99.89	16,148	303.65-	75.9	22.99-	51.89
New Hampshire	114,752	98.98	36,104	314.20-	81.5	25.59	53.50+
Manchester, NH	44,397	97.91	13,659	306.17-	84.0	25.49	55.18+
Portsmouth, NH	29,738	99.52	8,904	300.83-	87.7+	26.32	53.78
Vermont	62,781	99.82	19,721	311.12-	77.5	24.11-	54.10+
Burlington, VT	10,422	99.91	3,082	293.75-	84.4	25.32	55.38
Massachusetts	709,478	93.75	238,636	333.02+	78.0-	26.27	52.49+
Boston, MA	429,794	95.67	149,147	342.31+	76.0-	26.30	53.03+
New Bedford, MA	65,540	98.67	19,763	302.90-	84.4	25.78	50.70
Fittsfield, MA	20,281	91.00	7,034	344.45+	81.7	28.73	52.16
Springfield, MA	72,225	92.57	22,568	311.47-	86.6+	27.17	53.63+
Worcester, MA	71,185	79.42	25,923	359.07+	78.8	28.77+	52.39
Rhode Island	132,332	97.59	41,512	313.48-	80.3	25.28	51.58
Providence, RI	132,332	97.59	41,512	313.48-	80.3	25.28	51.58
Connecticut	396,761	97.56	100,732	254.42-	84.3+	21.54-	48.97-
Bridgeport, CT	96,911	96.63	25,190	260.41-	80.7	21.21-	48.97-
Hartford, CT	157,139	99.16	40,956	261.19-	83.7+	21.98-	48.08-
New Haven, CT	102,964	95.31	23,709	230.54-	89.4+	20.61-	49.93
New London, CT	27,613	99.70	7,554	276.04-	83.6	23.24-	49.88

See notes at end of table.

Table 3. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Middle Atlantic	4,707,584	98.68	1,492,177	317.36-	81.3+	25.93	53.68+
New York	2,143,249	98.98	633,727	293.30-	82.8+	24.56-	52.91+
Albany, NY	115,122	98.78	32,897	284.96-	83.0	23.89-	53.73+
Binghamton, NY	35,576	99.96	11,087	311.34-	84.2	26.65	54.80+
Buffalo, NY	134,451	98.66	38,739	291.68-	85.8+	25.00	57.15+
Elmira, NY	13,699	99.94	4,281	312.33	72.4	22.66-	53.82
Glens Falls, NY	15,222	99.63	5,267	343.77	65.4-	22.56-	53.45
Nassau-Suffolk, NY	297,143	99.88	84,720	287.73-	90.6+	26.81+	53.43+
New York, NY	997,473	99.58	290,991	286.17-	82.3+	23.85-	51.87+
Niagara Falls, NY	30,841	99.69	10,094	333.66	77.4	25.65	53.15
Orange County, NY	30,488	99.89	10,417	341.13+	83.5	28.56+	56.18+
Poughkeepsie, NY	27,864	98.47	8,397	298.48-	77.5	23.26-	52.61
Rochester, NY	102,542	88.80	27,977	270.36-	83.5	22.71-	50.66
Syracuse, NY	75,217	99.92	17,811	237.80-	91.7+	21.74-	53.94+
Utica-Rome, NY	46,733	99.90	14,363	308.76-	86.2+	26.67	54.97+
New Jersey	916,155	97.84	280,438	308.89-	86.9+	27.16+	53.63+
Atlantic City, NJ	46,406	97.93	14,605	312.94-	87.8+	27.63	54.52+
Bergen-Passaic, NJ	171,246	99.45	49,094	288.68-	86.7+	25.50	51.36
Jersey City, NJ	64,069	99.25	21,420	337.95+	83.7	28.22+	56.40+
Middlesex, NJ	91,009	94.70	27,253	308.10-	85.8+	26.76	52.85
Monmouth-Ocean, NJ	154,643	99.57	44,288	288.09-	92.2+	26.92	51.91
Newark, NJ	211,511	99.40	65,710	311.47-	82.9+	26.21	53.96+
Trenton, NJ	38,499	97.14	12,886	338.81+	77.9	26.42	52.68
Vineland, NJ	16,382	96.17	5,343	330.68	94.3+	31.09+	56.94+
Pennsylvania	1,648,180	98.75	578,012	353.91+	76.7-	27.09+	54.77+
Allentown, PA-NJ	94,668	99.09	30,119	322.79	77.9	25.33	52.83
Altoona, PA	20,692	99.99	7,026	339.52	77.6	25.99	58.34+
Beaver County, PA	27,562	99.95	9,940	371.50+	78.7	29.06+	53.62
Erie, PA	35,244	99.92	11,886	343.74+	72.5-	24.72	55.07+
Harrisburg, PA	72,929	99.95	20,956	289.82-	86.7+	24.89	54.15+
Johnstown, PA	40,260	99.97	15,698	397.96+	77.3	31.02+	54.87+
Lancaster, PA	48,045	99.93	13,788	283.92-	70.6-	19.65-	49.78
Philadelphia PA-NJ	569,054	95.81	198,001	349.76+	80.2	28.19+	55.90+
Pittsburgh, PA	323,494	99.06	125,096	393.48+	74.5-	29.37+	55.84+
Reading, PA	48,476	99.88	13,283	273.97-	85.6	22.96-	51.30
Scranton, PA	122,888	99.95	40,242	333.31+	78.9	26.32	55.81+
Sharon, PA	19,009	99.97	7,793	414.22+	69.1-	28.07	53.64
State College, PA	10,032	99.97	3,217	322.68	84.0	26.64	56.03
Williamsport, PA	16,877	99.98	6,107	360.84+	67.5-	23.90	50.69
York, PA	48,541	99.96	12,459	257.44-	85.2	21.74-	51.23

See notes at end of table.

Table 3. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
North Central	6,901,975	96.39	2,313,189	333.07+	79.5	26.42+	51.86+
East North Central	4,745,430	97.76	1,580,470	333.58+	81.3+	27.07+	53.38+
Ohio	1,263,869	99.46	438,991	349.60+	79.5	27.56+	54.64+
Akron, OH	75,615	99.90	26,013	347.12+	85.9+	29.69+	54.92+
Canton, OH	51,895	99.97	16,791	327.17	81.2	25.98	51.91
Cincinnati, OH-KY-IN	159,407	99.96	57,526	360.35+	79.6	28.51+	55.46+
Cleveland, OH	242,585	99.71	83,424	348.72+	80.4	28.09+	55.37+
Columbus, OH	121,377	99.73	39,565	327.70	82.6	26.77	56.28+
Dayton, OH	103,547	99.95	33,652	328.19	79.8	26.00	55.22+
Hamilton, OH	26,009	99.95	9,561	369.31+	83.2	30.60+	56.20+
Lima, OH	19,579	99.97	6,657	339.69	70.8-	23.47	49.72
Lorain-Elyria, OH	27,340	99.85	10,621	397.42+	72.8-	28.56	51.66
Mansfield, OH	15,230	99.96	4,352	289.28-	86.4	24.61	55.04
Steubenville, OH-WV	21,934	98.57	9,776	456.51+	75.6	34.39+	57.54+
Toledo, OH	70,660	99.95	26,722	378.92+	74.1-	27.89+	57.03+
Youngstown, OH	69,319	99.95	23,839	352.30+	78.4	27.24	54.54+
Indiana	623,062	97.86	199,741	321.13-	86.3+	27.52+	53.62+
Anderson, IN	17,198	99.83	6,099	358.49+	86.8	30.65+	55.23
Bloomington, IN	7,913	99.87	2,198	277.30-	91.5	25.00	52.44
Elkhart-Goshen, IN	15,647	99.92	4,257	271.20-	77.7	20.75-	48.57
Evansville, IN-KY	34,434	95.72	10,803	312.41-	87.5+	27.30	52.67
Fort Wayne, IN	37,565	97.77	10,761	285.43-	82.7	23.44-	55.21+
Gary-Hammond, IN	61,160	97.01	20,655	347.25+	86.9+	30.00+	57.71+
Indianapolis, IN	118,407	93.81	38,217	323.07	87.7+	28.46+	53.86+
Kokomo, IN	10,842	99.94	4,178	388.73+	93.5+	35.97+	58.69+
Lafayette, IN	11,228	99.92	3,236	286.18-	86.9	24.24	51.59
Muncie, IN	13,759	99.91	4,259	312.12	89.0	27.65	54.81
South Bend, IN	33,170	99.93	9,587	289.12-	82.4	23.55-	51.20
Terre Haute, IN	19,585	99.89	5,864	298.61-	97.7+	28.61	55.21
Illinois	1,265,011	95.90	438,226	345.78+	80.1	27.89+	52.96+
Aurora-Evanston, IL	30,946	98.68	9,686	311.20-	84.0	25.91	51.67
Bloomington, IL	12,672	99.94	4,501	349.72+	81.1	28.22	51.65
Champaign, IL	13,391	99.91	4,014	299.10-	77.3	23.19	48.80
Chicago, IL	608,135	92.94	203,323	336.04+	83.2+	28.32+	54.66+
Decatur, IL	15,992	99.97	6,031	374.38+	74.3	27.75	52.43
Joliet, IL	28,047	97.18	9,894	355.92+	79.9	28.55	53.74
Kankakee, IL	12,020	99.94	4,706	392.18+	77.8	30.47+	52.92
Lake County, IL	36,099	96.52	12,150	340.77+	79.5	27.46	51.85
Peoria, IL	43,549	99.93	14,543	332.45	78.5	26.00	49.76
Rockford, IL	28,351	88.93	8,750	307.95-	86.5	26.93	50.02
Springfield, IL	24,799	99.96	9,210	369.40+	74.6	27.71	52.67

See notes at end of table.

Table 3. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Michigan	982,444	96.86	317,238	325.47	84.0+	27.31+	54.56+
Ann Arbor, MI	17,760	95.12	5,312	297.90-	81.9	24.52	54.39
Battle Creek, MI	16,831	99.89	5,741	340.87	79.9	26.60	52.86
Benton Harbor, MI	21,618	99.88	7,230	336.23	88.9+	29.83+	54.29
Detroit, MI	448,826	96.43	149,315	337.00+	88.0+	29.90+	56.37+
Flint, MI	43,084	91.01	14,983	350.42+	83.7	28.95+	55.44+
Grand Rapids, MI	64,091	95.42	16,044	248.44-	83.6	20.52-	49.25
Jackson, MI	17,046	99.82	5,574	328.83	76.7	24.74	55.28
Kalamazoo, MI	21,512	99.85	5,700	265.06-	88.4	23.68	54.88
Lansing, MI	32,460	90.23	9,798	300.81-	80.8	24.17	51.22
Muskegon, MI	18,957	98.06	5,436	290.57-	90.7+	26.36	53.15
Saginaw, MI	42,162	96.18	14,270	342.42+	75.9	25.67	53.29
Wisconsin	611,044	99.60	186,274	301.41-	78.5	23.61-	49.62-
Appleton, WI	34,483	99.96	9,876	283.70-	73.5	20.68-	47.07-
Eau Claire, WI	16,955	99.94	5,832	338.95	75.0	25.50	49.44
Green Bay, WI	19,185	99.97	5,311	276.14-	81.1	22.31-	48.23
Janesville, WI	16,529	99.85	5,363	319.99	81.9	25.78	52.19
Kenosha, WI	14,291	99.91	4,275	299.10-	79.5	23.72	50.59
LaCrosse, WI	11,858	99.91	3,560	295.16-	88.0	26.29	51.73
Madison, WI	30,776	99.74	8,344	267.72-	68.6-	18.22-	46.70-
Milwaukee, WI	166,813	99.21	52,580	313.03-	82.5	25.64	52.07
Racine, WI	20,503	99.90	5,909	287.31-	86.0	24.65	48.44
Sheboygan, WI	14,461	99.98	4,050	277.30-	94.9+	26.44	52.26
Wausau, WI	12,945	99.95	3,200	246.09-	90.3	22.32-	48.87
West North Central	2,156,545	93.50	732,719	331.97+	75.7-	25.08-	48.85-
Minnesota	397,258	77.30	118,790	289.89-	80.7	23.36-	47.86-
Duluth, MN-WI	29,977	76.74	8,413	278.85-	95.1+	26.44	54.30+
Minneapolis, MN-WI	141,769	64.45	42,347	289.51-	83.0	23.92-	49.05-
Rochester, MN	9,393	99.67	2,858	295.99-	61.7-	18.46-	41.40-
St. Cloud, MN	12,248	70.92	3,627	285.50-	76.3	21.67-	43.29-
Iowa	404,057	99.37	127,091	307.10-	76.8-	23.43-	47.66-
Cedar Rapids, IA	19,323	99.94	6,410	328.11	73.9	24.01	48.00
Davenport, IA-IL	44,646	99.94	15,540	347.12+	83.4	28.93+	51.55
Des Moines, IA	40,067	94.50	12,843	317.05-	76.9	24.40	49.47
Dubuque, IA	11,460	99.95	3,327	286.91-	78.6	22.33-	52.18
Iowa City, IA	6,240	99.90	1,536	241.38-	74.8	17.81-	48.34
Sioux City, IA-NE	15,951	99.96	5,165	316.08	81.0	25.91	48.31
Waterloo, IA	19,521	99.96	6,834	346.73+	73.3	25.35	47.94

See notes at end of table.

Table 3. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Missouri	655,875	98.17	235,344	353.86+	77.2-	27.29+	52.20+
Columbia, MO	8,560	99.98	2,669	308.32	71.9	22.14	44.08-
Joplin, MO	19,275	99.95	7,194	372.39+	83.3	30.97+	55.12
Kansas City, MO-KS	154,919	95.72	57,717	368.98+	73.0-	27.03	50.85
St. Joseph, MO	13,630	99.97	4,610	332.72	85.3	28.37	56.10
St. Louis, MO-IL	283,167	97.43	101,368	355.63+	78.9	28.07+	54.31+
Springfield, MO	27,676	99.94	9,671	346.30+	71.9-	24.95	51.34
North Dakota	85,433	98.28	33,008	376.54+	59.6-	22.55-	43.92-
Bismarck, ND	8,160	95.13	3,040	367.77+	59.8-	21.98	44.18-
Fargo, ND-MN	14,138	96.57	4,740	325.30	64.9-	21.00-	44.59-
Grand Forks, ND	5,687	99.95	1,610	275.56-	76.9	21.57	48.11
South Dakota	96,216	99.59	37,646	380.04+	63.9-	24.34-	46.22-
Rapid City, SD	7,152	99.89	2,489	348.18	71.1	25.07	51.47
Sioux Falls, SD	13,275	99.93	4,802	355.89+	65.9-	23.16	44.95-
Nebraska	209,910	98.52	67,840	313.58-	76.9-	24.26-	47.61-
Lincoln, NE	20,994	98.50	5,424	252.83-	79.3	19.85-	45.13-
Omaha, NE-IA	57,609	95.39	19,552	336.21+	78.2	26.23	50.57
Kansas	307,796	95.82	113,000	358.25+	73.8-	26.42	46.10-
Lawrence, KS	4,965	87.78	1,464	287.40-	95.2	27.03	47.50
Topeka, KS	18,983	97.26	5,316	272.78-	71.7	19.46-	46.83-
Wichita, KS	45,844	88.57	15,499	334.95	80.0	26.61	47.84-
South	8,980,101	97.94	3,117,294	348.51+	78.7-	27.36+	51.17
South Atlantic	4,668,855	96.31	1,511,522	326.68	79.8	26.04	50.63-
Delaware	70,251	99.94	22,292	322.50	82.3	26.25	55.70+
Wilmington, DE-NJ-MD	58,114	99.65	18,383	321.69	81.7	25.96	55.36+
Maryland	436,606	99.49	141,923	329.11	79.6	26.11	55.04+
Baltimore, MD	244,878	99.90	82,643	342.03+	79.7	27.18+	56.92+
Cumberland, MD-WV	17,051	99.95	7,042	416.87+	74.3	30.80+	56.35+
Hagerstown, MD	14,522	99.95	3,657	253.54-	84.6	21.24-	49.29
District of Col.	66,196	99.75	18,460	274.32-	73.5-	19.62-	56.59+
Washington, DC-MD-VA	261,121	99.05	73,991	286.17-	76.8-	21.83-	52.18

See notes at end of table.

Table 3. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	188,780	337.69+	78.8	26.63+	54.16+
Charlottesville, VA	12,020	99.92	4,013	333.33	80.5	26.73	53.04
Danville, VA	15,532	99.99	4,372	285.74-	91.5+	26.30	56.42+
Lynchburg, VA	18,110	99.99	5,279	291.98-	82.3	23.49	52.49
Norfolk, VA	102,601	99.96	33,501	334.89+	86.6+	29.10+	57.76+
Richmond, VA	85,698	99.98	29,839	352.54+	74.1-	25.89	56.65+
Roanoke, VA	30,622	99.98	9,485	307.35-	79.1	24.15	50.92
West Virginia	244,259	98.98	92,245	378.82+	84.6+	31.65+	55.59+
Charleston, WV	34,215	99.96	12,306	364.53+	82.8	30.06+	56.11+
Huntington, WV-KY-OH	40,891	99.95	14,853	363.77+	84.5	30.24+	55.60+
Parkersburg, WV-OH	19,888	99.94	7,676	383.89+	85.8	32.46+	50.71
Wheeling, WV-OH	22,016	82.51	8,610	392.81+	85.5	33.10+	53.74
North Carolina	689,138	99.93	179,660	265.53-	92.1+	24.48-	52.61+
Asheville, NC	24,469	99.92	5,966	242.54-	74.9	18.00-	47.87
Burlington, NC	14,505	99.99	2,877	203.31-	102.5+	20.46-	52.93
Charlotte, NC	109,337	99.79	25,502	238.22-	98.5+	23.50-	53.51+
Fayetteville, NC	13,388	99.98	3,205	249.16-	94.5+	23.31	57.29+
Greensboro, NC	99,387	99.97	25,302	258.42-	92.5+	23.81-	52.11
Hickory, NC	23,392	99.97	5,925	260.32-	96.4+	25.34	52.26
Jacksonville, NC	5,134	99.86	1,380	281.91-	84.5	23.72	49.04
Raleigh-Durham, NC	56,484	99.86	13,824	247.82-	90.7+	22.52-	50.27
Wilmington, NC	12,634	99.97	3,405	277.97-	85.2	23.21	51.91
South Carolina	329,020	99.44	110,907	346.04+	79.4	27.22+	54.59+
Anderson, SC	16,583	99.70	5,433	335.67	78.5	26.70	49.17
Charleston, SC	34,246	98.90	11,276	339.46+	76.3	25.30	56.21+
Columbia, SC	35,361	99.98	11,099	322.72	73.9	23.41-	58.95+
Florence, SC	11,195	99.96	4,885	451.98+	79.9	35.64+	62.16+
Greenville, SC	65,893	98.01	20,538	319.42	80.1	25.50	52.14
Georgia	561,716	99.71	213,247	385.44+	79.6	30.46+	55.22+
Albany, GA	9,292	99.92	3,213	353.63+	94.0+	32.87+	54.87
Athens, GA	13,510	99.96	5,175	386.55+	77.3	29.57	51.46
Atlanta, GA	189,539	99.27	68,623	367.98+	80.2	29.21+	54.96+
Augusta, GA-SC	32,938	99.93	11,650	362.63+	81.5	29.42+	57.74+
Columbus, GA-AL	22,847	99.96	6,973	313.45-	100.4+	31.32+	60.59+
Macon, GA	25,929	99.97	8,635	341.19+	90.0+	30.14+	57.36+
Savannah, GA	25,338	99.94	8,813	354.69+	71.3-	25.25	54.86+

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Table 3. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 non-HMO enrollees	Per 1,000 non-HMO enrollees	
Florida	1,705,534	90.97	544,008	318.83-	24.27-	24.27-	44.97-
Bradenton, FL	42,906	99.68	11,798	271.09-	86.8+	23.52-	42.42-
Daytona Beach, FL	62,616	92.90	19,420	309.38-	75.1	23.33-	44.46-
Fort Lauderdale, FL	181,839	81.09	61,226	331.12	73.7-	24.55-	41.30-
Fort Myers, FL	61,428	99.65	17,116	284.86-	73.5-	20.94-	41.82-
Fort Pierce, FL	41,198	99.28	11,934	297.35-	75.6	22.54-	43.35-
FT. Walton Beach, FL	10,169	99.88	3,698	379.90+	68.5-	26.43	50.35
Gainesville, FL	16,758	99.58	5,674	341.38	74.1	25.14	53.51
Jacksonville, FL	80,895	98.22	28,008	351.25+	75.8	26.42	59.03+
Lakeland, FL	55,495	99.56	16,385	298.49-	77.6	23.06-	46.68-
Melbourne, FL	46,501	99.72	15,823	351.63+	71.2-	25.13	45.88-
Miami-Hialeah, FL	168,502	79.57	63,679	364.18+	71.5-	26.56	44.54-
Naples, FL	23,433	99.75	5,927	259.53-	74.0	19.15-	38.12-
Ocala, FL	31,367	99.50	8,764	289.83-	78.2	22.86-	47.56-
Orlando, FL	90,604	98.55	29,706	332.05	78.7	26.22	49.52
Panama City, FL	11,817	99.70	4,256	371.35+	81.3	29.99	54.67
Pensacola, FL	29,972	99.89	10,070	344.64+	79.2	27.05	53.35
Sarasota, FL	77,895	99.81	20,714	264.42-	73.6-	19.56-	39.83-
Tallahassee, FL	17,414	97.85	5,222	301.90-	83.9	25.50	47.55
Tampa, FL	323,951	87.05	100,098	305.98-	79.4	24.43-	45.56-
West Palm Beach, FL	139,729	85.22	40,648	290.08-	74.7-	21.85-	40.58-
East South Central	1,726,272	99.80	696,404	403.42+	74.4-	29.76+	53.68+
Kentucky	422,657	99.70	169,194	399.81+	76.9-	30.65+	54.63+
Lexington, KY	31,008	98.87	9,650	311.28-	83.0	25.95	54.08
Louisville, KY-IN	107,485	99.20	37,964	354.81+	79.8	28.14+	54.45+
Owensboro, KY	10,319	99.96	4,300	420.67+	71.6	29.70	50.90
Tennessee	550,327	99.65	218,279	398.02+	74.9-	29.65+	53.22+
Chattanooga, TN-GA	50,061	99.97	18,561	373.71+	78.2	29.05+	53.78+
Clarksville, TN-KY	12,541	99.91	4,652	369.73+	77.6	28.47	55.35
Jackson, TN	10,064	99.95	3,449	336.87	77.6	26.28	45.90-
Johnson City, TN-VA	55,068	99.97	18,793	345.52+	86.1+	29.94+	52.77
Knoxville, TN	70,970	99.96	24,781	353.36+	80.5	28.16+	52.72
Memphis, TN-AR-MS	88,836	98.06	32,027	360.40+	78.9	28.00+	58.41+
Nashville, TN	92,994	99.96	36,406	392.18+	69.6-	27.23	51.74

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Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Alabama	463,131	99.97	178,716	387.55+	74.8-	28.53+	53.61+
Anniston, AL	13,124	99.97	5,134	399.92+	78.1	31.02+	57.28+
Birmingham, AL	108,546	99.98	40,694	375.57+	79.4	29.35+	55.30+
Dothan, AL	12,690	99.94	5,509	438.45+	66.8-	28.62	52.16
Florence, AL	16,687	99.97	6,430	389.94+	70.1-	27.01	48.56
Gadsden, AL	14,295	99.97	5,499	394.36+	80.8	31.46+	56.70+
Huntsville, AL	17,137	99.96	5,647	336.70	81.7	27.39	51.33
Mobile, AL	50,513	99.96	17,989	361.36+	75.6	26.95	54.56+
Montgomery, AL	29,832	99.97	10,332	347.62+	78.4	26.60	53.37
Tuscaloosa, AL	13,604	99.99	5,443	399.87+	63.7-	24.78	52.07
Mississippi	290,157	99.98	130,215	443.70+	70.0-	30.57+	53.31+
Biloxi-Gulfport, MS	18,079	99.97	8,007	451.87+	71.0-	31.85+	56.53+
Jackson, MS	35,305	99.98	12,309	346.04+	75.9	25.83	52.09
Pascagoula, MS	8,556	99.88	4,066	491.64+	62.8-	30.92+	53.87
West South Central	2,584,974	99.74	909,368	350.88+	80.2	28.09+	50.52-
Arkansas	321,739	99.96	121,460	375.45+	77.8	29.09+	51.32
Fayetteville, AR	11,803	99.95	3,812	321.42	82.0	26.25	51.59
Fort Smith, AR-OK	21,413	99.98	7,501	350.61+	82.8	29.30+	50.62
Little Rock, AR	50,966	99.99	17,799	350.27+	75.5	26.37	52.23
Pine Bluff, AR	11,012	99.98	3,405	303.53-	85.4	25.57	55.85
Louisiana	415,968	99.98	171,431	410.64+	73.9-	29.69+	52.67+
Alexandria, LA	13,819	99.96	5,223	374.61+	74.1	27.00	51.02
Baton Rouge, LA	39,583	99.97	14,331	366.61+	77.1	27.90	50.04
Houma-Thibodaux, LA	13,501	100.00	5,175	393.84+	82.9	31.64+	49.88
Lafayette, LA	14,620	99.99	5,267	362.87+	71.2	25.69	48.40
Lake Charles, LA	16,436	99.98	7,062	437.82+	75.4	32.63+	53.40
Monroe, LA	14,648	99.99	7,200	485.89+	66.1-	31.09+	52.91
New Orleans, LA	118,708	99.99	44,630	377.72+	78.7	29.40+	55.09+
Shreveport, LA	36,822	99.98	14,009	375.51+	79.1	28.71+	54.56+
Oklahoma	378,716	99.02	135,854	354.66+	80.0	28.44+	51.01
Enid, OK	8,215	99.94	2,738	326.36	82.7	26.76	51.39
Lawton, OK	8,221	99.99	2,505	310.04	79.6	24.82	48.61
Oklahoma City, OK	88,646	97.45	30,199	338.24+	77.7	26.16	50.52
Tulsa, OK	71,032	98.13	23,308	328.05	85.8+	28.34+	51.58

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	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Texas	1,468,551	99.81	480,623	327.48	83.1+	27.31+	49.61-
Abilene, TX	13,100	99.96	3,959	299.42-	95.8+	28.41	50.31
Amarillo, TX	19,063	99.97	6,105	323.19	78.6	25.18	50.26
Austin, TX	47,578	99.95	14,119	296.12-	80.5	24.18-	48.60-
Beaumont, TX	42,323	99.98	16,649	395.60+	80.9	32.09+	53.32
Brazoria, TX	12,486	99.78	4,596	378.87+	86.2	32.45+	52.04
Brownsville, TX	20,169	99.86	5,673	281.98-	92.9+	26.35	44.29-
Bryan, TX	6,955	99.96	1,959	279.53-	98.3+	28.39	47.88
Corpus Christi, TX	28,417	99.56	10,496	373.59+	73.6	27.45	48.38
Dallas, TX	172,118	99.95	49,860	291.80-	94.0+	27.47+	52.31
El Paso, TX	37,292	99.94	10,764	292.69-	75.9	22.61-	46.58-
Fort Worth, TX	97,947	99.96	29,084	299.54-	87.0+	25.99	52.06
Galveston, TX	19,376	99.94	6,688	351.15+	85.7	30.03+	55.00
Houston, TX	187,992	99.85	62,631	338.25+	82.4	27.88+	52.09
Killeen-Temple, TX	17,182	99.97	4,884	283.56-	83.2	24.31	46.57-
Laredo, TX	8,421	99.99	3,062	358.05+	77.9	27.80	43.00-
Longview, TX	20,547	99.98	6,504	314.14	90.7+	28.30	51.39
Lubbock, TX	18,957	99.97	7,039	373.49+	78.1	28.89	48.98
McAllen, TX	27,402	99.82	7,433	272.61-	87.9	23.97	37.71-
Midland, TX	7,362	99.96	2,369	327.96	86.6	28.60	49.17
Odessa, TX	9,207	99.99	2,999	336.05	79.2	26.90	49.81
San Angelo, TX	11,215	99.99	3,815	338.46	77.7	25.36	49.04
San Antonio, TX	107,989	99.28	32,857	305.38-	76.4	23.73-	48.69-
Sherman-Denison, TX	14,532	99.99	4,864	332.01	80.2	26.59	48.33
Texarkana, TX-AR	15,315	99.99	5,932	383.69+	76.9	29.26	51.99
Tyler, TX	18,223	99.98	5,896	325.16	84.1	27.47	48.41
Victoria, TX	6,871	99.97	2,770	407.50+	81.3	33.36+	51.53
Waco, TX	23,624	99.99	6,218	260.94-	105.7+	27.33	50.31
Wichita Falls, TX	14,462	99.97	4,476	306.55-	95.8+	28.94	54.19
West	4,539,951	93.08	1,324,270	292.36-	80.2	23.48-	47.59-
Mountain	1,200,638	94.36	363,471	305.42-	74.7-	22.74-	46.82-
Montana	97,248	99.90	35,594	365.64+	64.7-	23.67-	48.32-
Billings, MT	12,097	99.88	3,758	313.25	67.5-	21.18-	43.27-
Great Falls, MT	9,076	99.91	3,597	397.72+	65.1-	25.97	49.76
Idaho	109,822	99.77	32,198	293.90-	72.3-	21.00-	47.57-
Boise City, ID	18,471	99.90	4,435	242.21-	70.0	16.64-	46.18-
Wyoming	42,408	99.91	15,941	375.99+	71.0-	26.70	50.45
Casper, WY	5,379	99.91	1,795	338.23	68.2	22.91	46.99
Cheyenne, WY	6,886	99.96	2,340	342.14	76.5	26.12	50.75

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Colorado	266,663	94.73	76,237	285.35-	76.3-	21.74-	47.34-
Boulder-Longmont, CO	15,143	97.96	4,126	269.39-	65.3-	17.55-	42.02-
Colorado Springs, CO	24,899	95.03	6,708	273.66-	73.3	20.27-	46.93-
Denver, CO	119,624	94.10	35,883	300.42-	76.7	23.15-	48.44-
Fort Collins, CO	15,089	99.71	4,139	272.82-	80.6	21.73-	49.23
Greeley, CO	11,610	99.62	3,354	287.00-	82.9	23.62	45.54-
Pueblo, CO	15,372	94.43	4,152	270.29-	83.7	22.53-	48.66
New Mexico	125,371	92.49	41,295	330.59	71.4-	23.76-	45.22-
Albuquerque, NM	33,783	81.01	9,516	285.45-	77.1	22.17-	47.14-
Las Cruces, NM	9,375	99.94	3,303	356.38+	67.8-	24.28	44.63-
Santa Fe, NM	8,454	93.66	2,337	277.71-	66.2-	19.01-	40.60-
Arizona	348,748	91.33	104,395	304.84-	74.9-	22.75-	44.83-
Phoenix, AZ	187,381	86.74	55,576	301.20-	76.1-	22.85-	43.95-
Tucson, AZ	70,550	96.06	21,410	306.61-	75.7	23.08-	46.74-
Utah	128,579	99.92	34,866	272.72-	74.8-	20.01-	47.11-
Provo-Orem, UT	16,076	99.93	4,574	287.15-	81.0	22.78-	48.24
Salt Lake City, UT	77,243	99.94	19,623	256.00-	76.9	19.27-	47.13-
Nevada	81,799	86.15	22,945	292.63-	96.2+	28.29+	51.83
Las Vegas, NV	45,252	82.98	13,031	302.51-	101.7+	30.99+	51.86
Reno, NV	19,133	89.17	5,150	277.99-	85.3	23.55	51.66
Pacific	3,339,313	92.62	960,799	287.71-	82.2+	23.74-	47.86-
Washington	461,706	92.41	129,107	279.45-	79.4	22.09-	47.43-
Bellingham, WA	13,629	99.51	3,382	245.30-	71.2	17.32-	45.33-
Bremerton, WA	15,439	96.59	4,313	280.67-	74.6	21.11-	46.39-
Olympia, WA	14,254	90.98	4,151	290.59-	79.3	23.01	48.30
Richland, WA	12,559	99.85	3,539	289.43-	77.3	22.31-	44.06-
Seattle, WA	159,828	86.57	45,392	283.29-	81.1	22.91-	47.23-
Spokane, WA	41,237	94.51	11,032	265.03-	83.8	22.10-	50.54
Tacoma, WA	50,245	97.24	13,027	260.36-	85.0	22.01-	49.83
Vancouver, WA	17,048	80.32	4,124	243.85-	83.0	19.64-	46.71-
Yakima, WA	22,738	99.74	6,708	293.09-	80.1	23.73	46.28-
Oregon	303,778	86.84	80,081	262.72-	78.1	20.32-	47.16-
Eugene, OR	28,947	88.67	7,223	250.22-	81.9	20.29-	48.10-
Medford, OR	20,326	99.78	5,392	266.44-	75.2	19.93-	44.74-
Portland, OR	99,155	72.79	25,688	254.84-	81.3	20.41-	48.35-
Salem, OR	33,249	90.39	8,255	243.93-	82.0	19.89-	43.94-

See notes at end of table.

Table 3. All diagnoses: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
California	2,477,248	93.71	728,965	294.25-	83.2+	24.63-	48.36-
Anaheim-Santa Ana, CA	167,171	89.39	52,194	311.10-	83.4+	26.40	45.98-
Bakersfield, CA	44,969	99.76	14,791	333.97	82.9	27.84	51.41
Chico, CA	27,102	99.09	7,646	283.94-	82.8	23.40-	46.11-
Fresno, CA	58,425	99.90	16,143	274.93-	85.7+	23.58-	48.36-
Los Angeles, CA	677,939	91.40	217,741	319.83-	82.0+	26.53	49.88-
Merced, CA	13,462	99.86	4,465	336.22	77.8	26.35	49.04
Modesto, CA	33,619	98.80	9,928	297.14-	82.6	24.23	48.78
Oakland, CA	188,258	99.08	53,221	283.11-	86.0+	24.58-	48.85-
Oxnard-Ventura, CA	49,488	93.74	14,209	288.84-	81.3	23.61-	46.08-
Redding, CA	17,796	99.73	5,269	303.08-	81.6	24.29	50.79
Riverside, CA	203,246	90.92	62,806	310.85-	85.4+	26.39	48.40-
Sacramento, CA	120,273	91.81	32,478	273.45-	86.3+	23.68-	49.93
Salinas, CA	29,131	99.86	7,678	263.42-	86.3	23.00-	48.42
San Diego, CA	205,402	91.35	56,406	275.72-	79.6	22.14-	45.92-
San Francisco, CA	163,753	89.02	43,122	259.13-	84.9+	22.30-	46.93-
San Jose, CA	105,258	99.50	25,218	240.69-	83.9	20.15-	45.65-
Santa Barbara, CA	38,021	99.70	9,761	253.33-	83.1	21.02-	45.83-
Santa Cruz, CA	24,640	99.77	6,325	250.82-	80.0	19.98-	46.66-
Santa Rosa, CA	44,775	99.49	12,374	274.64-	76.9	21.30-	47.56-
Stockton, CA	40,855	91.54	11,661	283.66-	92.5+	25.98	49.62
Vallejo, CA	35,778	98.59	10,084	282.22-	88.1+	24.95	50.12
Visalia, CA	28,811	99.91	9,492	328.86	75.1	24.74	48.94
Yuba City, CA	11,835	99.35	3,729	319.16	86.9	27.91	54.85
Alaska	16,348	99.78	4,848	308.91-	66.5-	20.15-	53.00
Anchorage, AK	5,625	99.75	1,639	312.18	73.5	22.83	54.09
Hawaii	80,233	83.64	17,798	223.71-	86.1+	19.45-	37.81-
Honolulu, HI	57,680	83.31	12,421	218.81-	88.2+	19.57-	37.59-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Summary of diagnostic groups

Information presented here is a summary of the data presented in the following sections. The next sections separately cover 11 diagnostic groups. Heart disease is the first group and has two subgroups, ischemic heart disease and acute myocardial infarction. The fourth group is all cancers, which has two subgroups, cancer of the digestive organs and cancer of the trachea, bronchus, and lung. The remaining five groups are stroke, pneumonia and influenza, diseases of the gallbladder, hernia of the abdominal cavity, and hip fracture (fracture of neck of femur).

Tables 1 through 5 in this section contain the discharge rate per 1,000 enrollees, the 30-day post-admission death rate per 1,000 discharges, and total deaths per 1,000 aged persons for these 11 diagnostic groups by age, sex, race, and geographic area. The diagnoses covered in this volume account for 42 percent of Medicare discharges (137.22 discharges per 1,000 enrollees out of a total of 327.09) for aged enrollees and 74.2 percent of all deaths (37.87 deaths per 1,000 persons out of a total of 51.02) for persons aged 65 years or over. The data in each summary table are shown by one

demographic variable only. The tables in each section that follows are more detailed. In Table 1, the data are summarized by age. For all diagnoses combined, total discharge rates, 30-day post-admission death rates, and population death rates increased with age. Discharges per 1,000 enrollees also increased with age for most of the individual diagnostic groups. However, discharge rates for ischemic heart disease, all cancers, and hernia of the abdominal cavity were highest in the age group 75-84 years. Discharge rates for malignant neoplasms of the digestive organs were virtually the same

Table 1. Short-stay hospital discharges and post-admission deaths per 1,000 discharges for aged Medicare enrollees and total deaths per 1,000 aged persons, by age and diagnostic group: United States, 1986

Diagnostic group	Discharges per 1,000 non-HMO enrollees					30-day post-admission deaths per 1,000 discharges					Total deaths per 1,000 persons				
	Rate														
	Percent	All ages	65-74 years	75-84 years	85 years or over	All ages	65-74 years	75-84 years	85 years or over	All ages	65-74 years	75-84 years	85 years or over	All ages	65-74 years
All diagnostic groups	100.0	327.09	263.83	400.62	499.05	79.6	56.8	87.3	137.6	51.02	28.01	63.48	153.98	37.87	21.00
Subtotal	42.0	137.22	106.70	171.51	223.69	—	—	—	—	—	—	—	—	—	—
Heart disease	19.7	64.59	52.49	79.92	93.41	104.2	74.4	117.9	173.9	21.22	10.42	26.37	71.78	2.66	2.92
Ischemic heart disease	9.4	30.73	29.07	34.40	29.63	98.6	68.9	124.7	189.1	14.56	7.33	18.29	47.48	3.87	1.49
Acute myocardial infarction	3.2	10.50	8.81	13.04	13.32	242.0	185.5	279.6	364.6	6.95	4.19	9.21	16.78	2.08	0.58
All cancers	8.2	26.77	24.65	31.27	26.04	160.1	149.5	167.4	196.7	10.56	8.46	12.87	16.11	0.11	0.04
Malignant neoplasms of digestive organs and peritoneum	2.1	6.76	5.72	8.34	8.36	190.9	176.1	196.2	239.4	2.88	2.09	3.63	5.33	0.03	0.01
Malignant neoplasms of trachea, bronchus, and lung	1.2	3.88	4.23	3.83	1.82	281.0	259.6	312.7	387.9	2.66	2.62	2.92	2.05	—	—
Stroke	3.7	11.96	7.36	16.98	25.50	197.7	153.0	198.4	279.0	3.87	1.49	5.05	14.89	0.04	0.15
Pneumonia and influenza	4.7	15.50	9.23	20.38	40.14	163.5	107.0	165.8	243.3	2.08	0.58	2.42	10.32	0.04	0.15
Diseases of gallbladder	1.9	6.27	5.70	6.97	7.65	31.7	17.1	39.7	78.5	0.11	0.04	0.15	0.14	—	—
Hernia of abdominal cavity	1.6	5.10	4.80	5.80	4.73	14.7	6.9	18.4	50.8	0.03	0.01	0.04	0.14	—	—
Fracture of neck of femur	2.1	7.03	2.47	10.19	26.22	63.5	36.1	56.1	89.4	—	—	—	—	—	—

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

for the age groups 75–84 years and 85 years or over. For malignant neoplasms of the trachea, bronchus, and lung, discharge rates decreased with age. Discharge rates more than tripled from the lowest age group to the highest age group for stroke, pneumonia and influenza, and fracture of the neck of the femur.

Rates of 30-day post-admission deaths per 1,000 discharges increased with age for each diagnostic group. The population death rate (deaths per 1,000 aged persons) increased with age for all diagnoses except malignant neoplasms of the trachea, bronchus, and lung, for which the death rate was highest in the age group 75–84 years. The greatest increases in population death rates by age for the major causes of death were for heart disease, with the rate for the age group 85 or over (71.78 deaths per 1,000 persons) almost seven times the rate for the age group 65–74 (10.42 deaths per 1,000 persons), and for ischemic heart disease, with the rate for the oldest age group (47.48 deaths per 1,000 persons) also almost seven times the rate for the youngest (7.33 deaths per 1,000 persons). The smallest increase among the major causes of death was for all cancers (8.46 deaths per 1,000 for the age group 65–74 and 16.11 deaths per 1,000 persons 85 years or over), for which the rate almost doubled.

In Table 2, the data are summarized by sex. For all diagnostic groups combined, total discharges per 1,000 enrollees, 30-day post-admission deaths per 1,000 discharges, and deaths per 1,000 persons were higher for men than for women. Discharge rates were also higher for men than for women for each diagnostic group except diseases of the gallbladder and fracture of the neck of the femur. The discharge rates for men were

at least 25 percent higher than those for women for the remainder of the diagnostic groups except stroke, for which the rate was 8 percent higher for men than for women.

Men had higher 30-day post-admission death rates per 1,000 discharges than women for all the diagnostic groups except acute myocardial infarction, stroke, and hernia of the abdominal cavity. Population deaths per 1,000 persons were higher for men than for women for all the major causes of death except stroke. The stroke death rate for women (4.07 per 1,000 persons) was about 14 percent higher than that for men (3.58 per 1,000 persons). The population death rates were more than 25 percent higher for men than for women for the remainder of the major causes of death. The smallest

difference was 9.1 percent for diseases of the gallbladder (0.12 per 1,000 men versus 0.11 per 1,000 women), and the largest was 218 percent for malignant neoplasms of the trachea, bronchus, and lung (4.49 per 1,000 men versus 1.41 per 1,000 women).

The data are summarized by race in Table 3. Discharge rates for all diagnostic groups combined were virtually the same for white persons as for black persons. Among individual diagnostic groups, rates were higher for white persons than for black persons for heart disease, pneumonia and influenza, diseases of the gallbladder, hernia of the abdominal cavity, and fracture of the neck of the femur. Discharge rates were higher for black persons for cancer diagnoses and stroke.

Table 2. Short-stay hospital discharges and post-admission deaths per 1,000 discharges for aged Medicare enrollees and total deaths per 1,000 aged persons, by sex and diagnostic group: United States, 1986

Diagnostic group	Discharges per 1,000 non-HMO enrollees			30-day post-admission deaths per 1,000 discharges			Total deaths per 1,000 persons		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
All diagnostic groups	327.09	354.81	308.69	79.6	89.3	72.3	51.02	59.97	44.92
Subtotal	137.22	157.81	123.51	—	—	—	37.87	44.38	33.44
Heart disease	64.59	73.87	58.42	104.2	109.3	99.8	21.22	24.29	19.13
Ischemic heart disease	30.73	37.11	26.49	98.6	100.2	97.1	14.56	17.18	12.77
Acute myocardial infarction	10.50	13.51	8.51	242.0	227.5	257.3	6.95	8.70	5.75
All cancers	26.77	34.82	21.43	160.1	170.0	149.4	10.56	13.95	8.25
Malignant neoplasms of digestive organs and peritoneum	6.76	8.02	5.92	190.9	202.6	180.5	2.88	3.51	2.45
Malignant neoplasms of trachea, bronchus, and lung	3.88	6.19	2.35	281.0	293.6	259.1	2.66	4.49	1.41
Stroke	11.96	12.50	11.60	197.7	193.4	200.7	3.87	3.58	4.07
Pneumonia and influenza	15.50	18.62	13.42	163.5	184.4	144.2	2.08	2.41	1.85
Diseases of gallbladder	6.27	5.95	6.48	31.7	37.4	28.3	0.11	0.12	0.11
Hernia of abdominal cavity	5.10	8.43	2.88	14.7	12.2	19.5	0.03	0.03	0.03
Fracture of neck of femur	7.03	3.62	9.28	63.5	108.4	51.9	—	—	—

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. Short-stay hospital discharges and post-admission deaths per 1,000 discharges for aged Medicare enrollees and total deaths per 1,000 aged persons, by race and diagnostic group: United States, 1986

Diagnostic group	Discharges per 1,000 non-HMO enrollees				30-day post-admission deaths per 1,000 discharges				Total deaths per 1,000 persons			
	All persons ¹		White		All persons ¹		White		All persons ¹		White	
	327.09	328.74	328.74	329.57	79.6	79.6	79.6	84.9	51.02	51.02	51.00	56.13
All diagnostic groups	137.22	138.82	128.24	—	—	—	—	—	37.87	37.95	40.89	—
Subtotal	64.59	65.44	59.91	104.2	104.2	105.8	89.8	89.8	21.22	21.36	22.03	22.03
Heart disease	30.73	31.68	21.88	98.6	98.6	99.8	84.4	84.4	14.56	14.92	12.23	12.23
Ischemic heart disease	10.50	10.83	7.53	242.0	242.0	244.9	206.5	206.5	6.95	7.12	5.86	5.86
Acute myocardial infarction	26.77	26.81	27.84	160.1	160.1	158.9	179.8	179.8	10.56	10.50	12.19	12.19
All cancers	6.76	6.71	7.62	190.9	190.9	188.5	220.7	220.7	2.88	2.83	3.60	3.60
Malignant neoplasms of digestive organs and peritoneum	3.88	3.86	4.32	281.0	281.0	283.2	276.8	276.8	2.66	2.67	2.84	2.84
Malignant neoplasms of trachea, bronchus, and lung	11.96	11.61	16.77	197.7	197.7	200.8	179.3	179.3	3.87	3.83	4.72	4.72
Stroke	15.50	15.79	13.02	163.5	163.5	163.6	174.3	174.3	2.08	2.12	1.82	1.82
Pneumonia and influenza	6.27	6.46	4.07	31.7	31.7	31.5	41.0	41.0	0.11	0.11	0.10	0.10
Diseases of gallbladder	5.10	5.27	3.56	14.7	14.7	14.4	22.3	22.3	0.03	0.03	0.03	0.03
Hernia of abdominal cavity	7.03	7.44	3.07	63.5	63.5	64.1	58.7	58.7	—	—	—	—
Fracture of neck of femur	—	—	—	—	—	—	—	—	—	—	—	—

¹ Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

The 30-day post-admission death rate per 1,000 discharges for all diagnoses combined was somewhat higher among black than white Medicare enrollees. By diagnostic group, 30-day post-admission death rates were higher for black persons for all cancers, malignant neoplasms of the digestive organs, pneumonia and influenza, diseases of the gallbladder, and hernia of the abdominal cavity. In contrast, this rate was higher for white persons for heart disease; ischemic heart disease; acute myocardial infarction; malignant neoplasms of the trachea, bronchus, and lung; stroke; and fracture of the neck of the femur.

The death rate per 1,000 aged persons for all diagnostic groups combined was higher

deaths per 1,000 discharges were similar among urban and rural residents. However, the 30-day post-admission death rate for pneumonia and influenza was more than 18 percent higher for urban residents than for residents of rural areas (173.0 versus 146.5 per 1,000 discharges).

Deaths per 1,000 persons for all diagnostic groups combined were similar for urban and rural residents (51.34 versus 50.73). This was also true for two of the major causes of death, heart disease and ischemic heart disease. Death rates were somewhat higher among residents of rural areas for acute myocardial infarction and stroke and somewhat higher among residents of urban areas for cancer diagnoses.

The data are shown by region in Table 5. For all diagnostic groups combined, discharge rates were lowest for residents in the West (292.36) and highest for residents in the South (348.51). This was also true for most individual diagnostic groups.

Exceptions were pneumonia and influenza, acute myocardial infarction, all cancers, malignant neoplasms of the digestive organs—which were lowest in the West but highest in the Northeast—and fracture of the neck of the femur—which was lowest in the Northeast and highest in the West.

No particular pattern by region was evident for 30-day post-admission deaths per 1,000 discharges. For all diagnostic groups combined, the difference between the lowest and highest rates was only 2.8 percent. No single region had the majority of highest or lowest 30-day death rates. For the individual diagnostic groups, the difference between the lowest and highest region was

12.5 percent or less. For all diagnostic groups combined, the population death rates were lowest for residents in the West (47.59)

Table 4. Short-stay hospital discharges and post-admission deaths per 1,000 discharges for aged Medicare enrollees and total deaths per 1,000 aged persons, by metropolitan or rural counties and diagnostic group: United States, 1986

Diagnostic group	Discharges per 1,000 non-HMO enrollees				30-day post-admission deaths per 1,000 discharges				Total deaths per 1,000 persons			
	United States		Metro-politan		United States		Metro-politan		United States		Metro-politan	
	327.09	316.97	353.58	149.13	79.6	81.1	76.3	51.17	51.34	50.73	38.02	37.42
All diagnostic groups												
Subtotal	137.22	132.67	149.13		—	—	—	38.02	38.23	37.42		
Heart disease	64.59	62.61	69.78		104.2	104.2	104.1	21.29	21.44	20.89		
Ischemic heart disease	30.73	29.51	33.92		98.6	97.7	100.5	14.61	14.82	14.04		
Acute myocardial infarction	10.50	10.03	11.75		242.0	239.3	248.1	6.98	6.69	7.74		
All cancers	26.77	27.09	25.96		160.1	158.8	163.6	10.59	10.83	9.96		
Malignant neoplasms of digestive organs and peritoneum												
Malignant neoplasms of trachea, bronchus, and lung	6.76	6.90	6.40		190.9	189.0	196.5	2.89	2.98	2.64		
Stroke	3.88	3.92	3.81		281.0	274.8	298.3	2.68	2.73	2.53		
Pneumonia and influenza	11.96	11.69	12.66		197.7	194.4	205.5	3.89	3.75	4.26		
Diseases of gallbladder	15.50	13.67	20.23		163.5	173.0	146.5	2.09	2.07	2.14		
Hernia of abdominal cavity	6.27	5.72	7.73		31.7	32.6	30.1	0.12	0.11	0.13		
Fracture of neck of femur	5.10	4.91	5.59		14.7	14.9	14.0	0.04	0.03	0.04		
	7.03	6.98	7.18		63.5	63.1	64.5	—	—	—		

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex.
SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

and highest for residents in the Northeast (53.18). This was also true for most of the major causes of death.

It has been hypothesized that areas with high discharge rates may have a less severe case mix and, conversely, that areas with low discharge rates may have a more severe case mix. If this hypothesis holds, there should be a negative correlation between discharge rates and hospital-related mortality (i.e., 30-day post-admission deaths per 1,000 discharges). Additionally, it is reasonable to hypothesize that discharge rates should reflect relative need for care. Under this hypothesis, one would expect that hospitalization for a given condition, such as heart disease, should be higher in areas

with higher population death rates from heart disease.

The correlation between the number of discharges per 1,000 enrollees and both 30-day post-admission deaths per 1,000 discharges and total deaths per 1,000 persons for the 11 diagnostic groups is shown in Table 6. The correlations were calculated using rates for metropolitan statistical areas and rural areas.

For all diagnoses combined, there was a negative correlation of 0.42 between the discharge rates per 1,000 enrollees and the 30-day post-admission death rates per 1,000 discharges, indicating an inverse relationship between the 30-day post-admission mortality rate and the hospitalization rate in an area.

In four of the individual diagnostic groups, this correlation was also negative and statistically significant.

There was a positive correlation of 0.42 between the discharge rates per 1,000 enrollees and the population death rates per 1,000 persons for all diagnoses combined, indicating a direct relationship between mortality and hospitalization in an area. This correlation was also positive and statistically significant for virtually all of the individual diagnostic groups.

Table 6. Correlations between short-stay hospital discharges per 1,000 aged Medicare enrollees and death rates, by diagnostic group: United States, 1986

Diagnostic group	Correlation between discharge rate and:	
	30-day post-admission deaths per 1,000 discharges	Total deaths aged persons
All diagnostic groups	1 - 0.42	1 0.42
Heart disease	1 - 0.26	1 0.56
Ischemic heart disease	1 - 0.32	1 0.31
Acute myocardial infarction	- 0.03	1 0.51
All cancers	0.04	1 0.44
Malignant neoplasms of digestive organs and peritoneum	- 0.04	1 0.54
Malignant neoplasms of trachea, bronchus, and lung		
Stroke	1 - 0.25	1 0.59
Pneumonia and influenza	- 0.11	1 0.38
Diseases of gallbladder	1 - 0.23	1 0.24
Hernia of abdominal cavity	- 0.07	1 0.26
Fracture of neck of femur	- 0.09	- 0.06
	0.09	—

¹ Correlation is significant at the $p < .01$ level.

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included in Medicare data.

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 5. Short-stay hospital discharges and post-admission deaths per 1,000 discharges for aged Medicare enrollees and total deaths per 1,000 aged persons, by census region and diagnostic group: United States, 1986

Diagnostic group	Discharges per 1,000 non-HMO enrollees					30-day post-admission deaths per 1,000 discharges					Total deaths per 1,000 persons				
	United States	North-east	North Central	South	West	United States	North-east	North Central	South	West	United States	North-east	North Central	South	West
All diagnostic groups	327.09	315.00 –	333.07 +	348.51 +	292.36 –	79.6	80.9 +	79.5	78.7 –	80.2	51.17	53.18 +	51.86 +	51.17	47.59 –
Subtotal	137.22	136.08	139.13	144.96	120.73	—	—	—	—	—	38.02	40.37	38.76	37.51	34.82
Heart disease	64.59	65.27 +	65.20 +	67.97 +	56.04 –	104.2	103.0	108.8 +	102.7 –	101.2 –	21.29	23.33 +	21.92 +	20.84 –	18.59 –
Ischemic heart disease	30.73	30.98	30.70	32.88 +	26.19 –	98.6	98.1	104.0 +	96.9 –	94.0 –	14.61	17.18 +	15.44 +	13.11 –	12.88 –
Acute myocardial infarction	10.50	11.19 +	10.74 +	10.71 +	8.83 –	242.0	230.2 –	249.4 +	249.0 +	232.1 –	6.98	7.75 +	7.28 +	7.03	5.43 –
All cancers	26.77	28.95 +	26.44 –	26.93	24.00 –	160.1	156.7 –	159.6	161.2	164.0 +	10.59	11.26 +	10.60	10.39 –	10.10 –
Malignant neoplasms of digestive organs and peritoneum	6.76	7.79 +	6.71	6.46 –	6.04 –	190.9	185.0 –	191.4	194.2	194.0	2.89	3.29 +	2.92	2.68 –	2.71 –
Malignant neoplasms of trachea, bronchus, and lung	3.88	4.00 +	3.71 –	4.32 +	3.14 –	281.0	275.2	287.0	274.3	298.1 +	2.68	2.67	2.59 –	2.81 +	2.55 –
Stroke	11.96	11.39 –	12.08	12.83 +	10.84 –	197.7	194.4	196.0	200.2	199.4	3.89	3.43 –	3.95	4.22 +	3.77 –
Pneumonia and influenza	15.50	13.20	16.11 +	17.51 +	13.81 –	163.5	169.1 +	160.9	159.9 –	169.3 +	2.09	2.20 +	2.13	1.91 –	2.22 +
Diseases of gallbladder	6.27	5.67 –	6.57 +	6.93 +	5.34 –	31.7	33.0	32.8	30.3	31.3	0.12	0.12	0.12	0.12	0.10 –
Hernia of abdominal cavity	5.10	5.25 +	5.52 +	5.53 +	3.43 –	14.7	15.2	15.2	13.6	15.3	0.04 –	0.03 –	0.04	0.03	0.04 –
Fracture of neck of femur	7.03	6.35 –	7.21 +	7.26 +	7.27 +	63.5	61.4	66.4	63.7	61.3	—	—	—	—	—

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (–) indicates that the rate is significantly greater or less than the U.S. rate ($p < .01$).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Heart disease

In 1986, there were 8.7 million hospital discharges for Medicare enrollees 65 years of age or over. Heart disease is a leading reason for hospitalization, accounting for 1.7 million, or 20 percent, of all hospital stays for aged enrollees in 1986. It is the leading cause of death, accounting for 42 percent of all deaths among the aged. Heart disease accounted for 64.59 discharges per 1,000 aged Medicare enrollees and 21.22 deaths per 1,000 aged persons (Table 1). The 30-day post-admission mortality rate per 1,000 discharges was 104.2, or about 10 percent. The 30-day post-admission mortality rate per 1,000 enrollees for heart disease (6.73 deaths per 1,000 enrollees) made up 26 percent of total post-admission deaths in the Medicare population.

Age and sex patterns

Both discharge rates and death rates for heart disease increase with age, as would be expected (Table 1). For all age groups, discharge rates and death rates were higher for men than for women. For example, among enrollees aged 65–74, the discharge rate for men was 63.82, compared with 43.71 for women. The death rate for persons 65–74 years of age was 14.46 for men versus 7.24 for women. Rates of 30-day post-admission mortality per 1,000 discharges increased with age and were higher for men than for women at all ages.

NOTE: Heart disease is ICD-9-CM codes 391–392.0, 393–398, 402, 410–429.

Patterns by race

Both discharge rates and death rates differed between black and white persons. Discharge rates for heart disease were lower for black men than for white men in all age groups 65 years or over. For example, among men aged 65–74, the discharge rate for black men was 50.65 per 1,000 enrollees, compared with 65.28 for white men. In contrast, discharge rates for black and white women were similar.

Generally, population death rates (total deaths per 1,000 aged persons) for heart disease were somewhat higher for black persons than for white persons among both men and women. However, the situation was reversed for the oldest old, persons 85 years or over. Among black men 85 years or over, the death rate was 62.68 per 1,000 persons, compared with a rate of 81.37 for white men. Similarly, the death rate for black women aged 85 years or over was 56.98, compared with a rate of 70.21 for white women.

The rates of 30-day post-admission deaths per 1,000 discharges were similar for black persons and white persons in the age group 65–74 years. However, this rate was lower for black persons than white persons in the group 75 years or over.

Variations by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region,

division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan statistical area (MSA) level are shown in Table 3. Figures 1–3 were derived from the data in these tables.

Discharge rates

The highest discharge rates for heart disease were clustered in those Southern and Middle Atlantic States shown in black in Figure 1. The States with the lowest discharge rates, with some exceptions, are in the West. The highest discharge rate of any State was 80.54 discharges per 1,000 enrollees in West Virginia, and the lowest rate was 39.46 in Hawaii (Table 2).

The range in the distribution of MSAs and rural areas by discharge rates across the United States and within U.S. census divisions is shown in the boxplots in Figure 2. The information shown is in line with that shown in the map in Figure 1. The divisions with the highest median discharge rates were the Middle Atlantic and East South Central, and the divisions with the lowest median rates were the Mountain and Pacific. The Middle Atlantic Division also had a large range in rates across its MSAs and rural areas. The correlation coefficient between the 30-day post-admission mortality rate per 1,000 discharges and the discharge rate per 1,000 enrollees at the MSA level was -0.26 , which indicates an inverse but weak relationship between the two rates.

The highest population death rates from heart disease were generally found in the eastern part of the United States (Figure 3). New York had the highest rate of deaths from heart disease (24.66 deaths per 1,000 aged persons), and Hawaii had the lowest rate (14.35 deaths per 1,000). As noted, Hawaii also had the lowest discharge rate for heart disease.

Correlations between rates

For heart disease, the correlation across MSAs between the Medicare discharge rate and the death rate for persons aged 65 or over was 0.56, indicating a direct relationship between the underlying mortality in an area and the hospital use rate in an area. As already noted, there was a negative correlation of -0.26 between the 30-day post-admission mortality rate per 1,000 discharges and the discharge rate per 1,000 enrollees at the MSA level. This correlation suggests that areas having a high rate of discharges tend to have a smaller proportion of severely ill patients and, conversely, that areas having a low rate of discharges tend to have a greater proportion of severely ill patients.

Urban-rural patterns

Nationwide, the heart disease discharge rate for Medicare enrollees living in rural areas was higher than the rate for residents of MSAs (69.78 versus 62.61 discharges per 1,000 enrollees). In each census region, the rate was also higher for rural residents.

Nationwide, the 30-day post-admission death rate per 1,000 discharges was nearly identical for MSA and rural residents. In two regions (Northeast and West), the rate was lower for rural residents; in the North Central and South Regions, the rates were similar.

In the Nation as a whole, the population death rate from heart disease was lower for rural residents than for MSA residents (20.89 versus 21.44 deaths per 1,000 aged persons). The rate was also lower for rural residents in all census regions except the South.

Table 1. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

Age, sex, and race	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
All persons (1)	26,698,924	96.70	1,724,501	64.59	104.2	6.73	21.22
65-74 years	16,162,594	96.33	848,431	52.49	74.4	3.91	10.42
75-84 years	8,020,447	96.96	235,028	79.92	117.9	9.43	26.37
85 years or over	2,515,883	98.32		93.41	173.9	16.24	71.78
Men	10,650,991	96.01	786,847	73.87	109.3	8.08	24.29
65-74 years	7,056,445	95.90	450,373	63.82	79.9	5.10	14.46
75-84 years	2,912,366	96.02	265,560	91.18	136.0	12.40	33.75
85 years or over	682,180	97.22	70,914	103.95	196.3	20.41	79.10
Women	16,047,933	97.16	937,654	58.42	99.8	5.83	19.13
65-74 years	9,106,149	96.66	398,058	43.71	68.2	2.98	7.24
75-84 years	5,108,081	97.51	375,482	73.50	105.2	7.73	21.96
85 years or over	1,833,703	98.74	164,114	89.49	164.2	14.70	68.89
White	23,574,066	96.62	1,542,812	65.44	105.8	6.92	21.36
65-74 years	14,207,064	96.23	753,291	53.02	74.8	3.97	10.24
75-84 years	7,134,499	96.88	576,667	80.82	119.8	9.68	26.35
85 years or over	2,232,503	98.26	212,854	95.34	177.2	16.89	73.32
Men	9,391,016	95.94	709,885	75.59	110.7	8.37	24.50
65-74 years	6,216,472	95.83	405,869	65.28	80.2	5.24	14.40
75-84 years	2,573,989	95.94	239,773	93.15	138.1	12.87	34.04
85 years or over	600,555	97.12	64,243	106.97	201.0	21.50	81.37
Women	14,183,050	97.07	832,927	58.72	101.5	5.96	19.22
65-74 years	7,990,592	96.55	347,422	43.47	68.6	2.98	6.93
75-84 years	4,560,510	97.42	336,894	73.87	106.7	7.88	21.80
85 years or over	1,631,948	98.69	148,611	91.06	166.9	15.20	70.21
Black	1,991,943	97.86	119,344	59.91	89.8	5.38	22.03
65-74 years	1,213,014	97.54	59,914	49.39	72.5	3.58	13.48
75-84 years	583,429	98.11	42,914	73.55	97.3	7.16	29.20
85 years or over	195,500	99.11	16,516	84.48	133.2	11.25	58.78
Men	792,788	97.49	47,670	60.12	96.9	5.83	24.65
65-74 years	519,305	97.28	26,307	50.65	79.6	4.03	16.73
75-84 years	215,401	97.67	16,365	75.97	110.3	8.38	34.07
85 years or over	58,082	98.74	4,998	86.05	144.1	12.40	62.68
Women	1,199,155	98.10	71,674	59.77	85.1	5.09	20.27
65-74 years	693,709	97.74	33,607	48.44	66.9	3.24	11.08
75-84 years	368,028	98.37	26,549	72.13	89.3	6.44	26.23
85 years or over	137,418	99.26	11,518	83.81	128.5	10.77	56.98

(1) Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

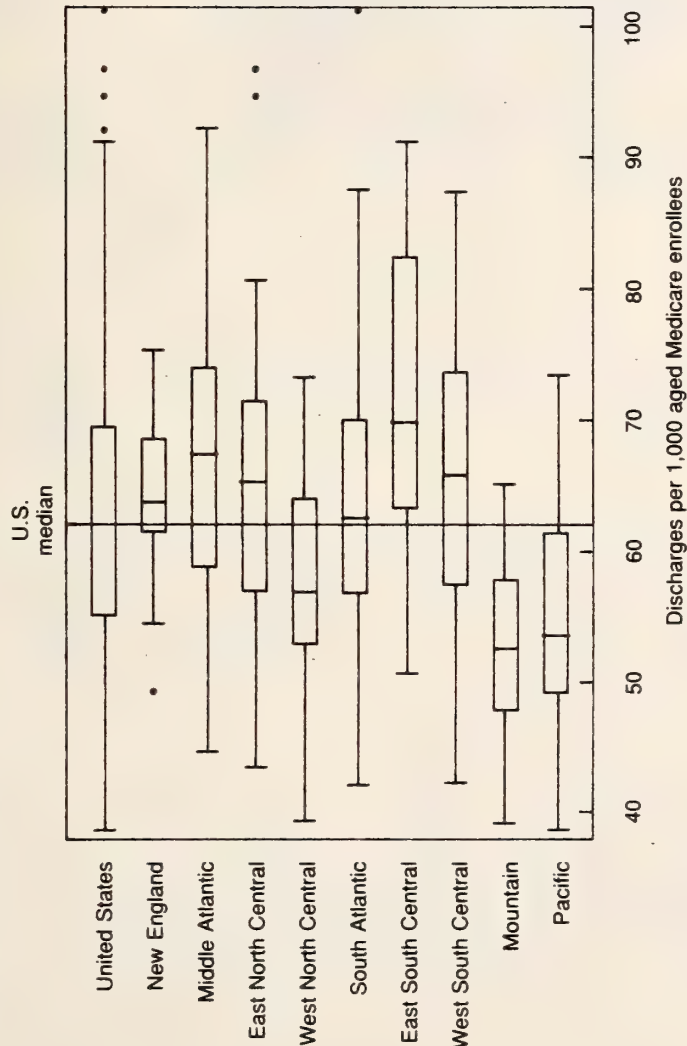
SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Figure 1. Heart disease: Short-stay hospital discharges per 1,000 aged Medicare enrollees, by State: 1986



NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included.
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

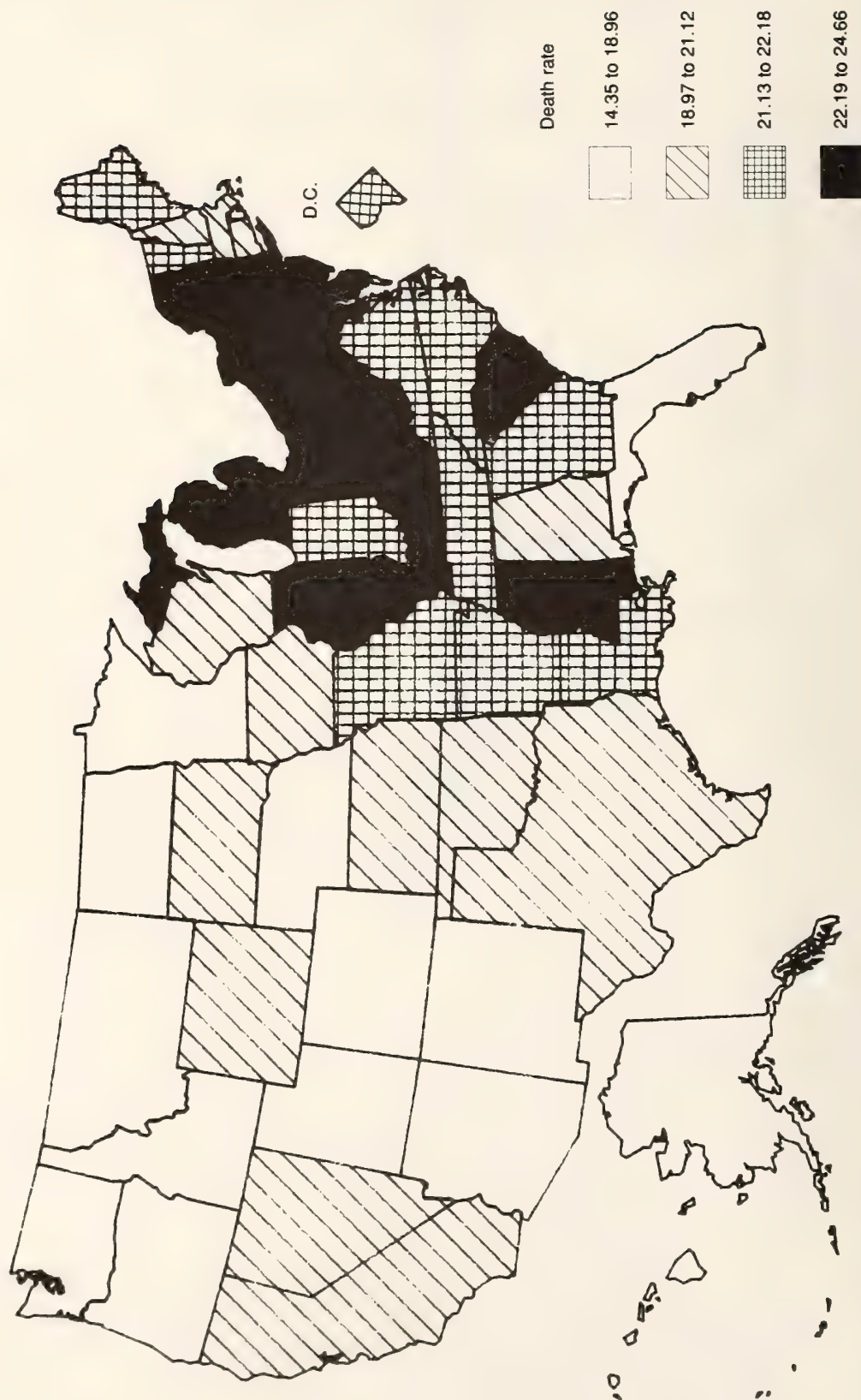
Figure 2. Heart disease: Short-stay hospital discharges per 1,000 aged Medicare enrollees for rural and metropolitan statistical areas, by census division: United States, 1986



Outliers for discharges per 1,000 enrollees			
Area	Rural or metropolitan statistical area	Rate	
United States	Johnstown, PA	92.34	
	Kokomo, IN	94.70	
	Steubenville, OH-WV	96.91	
	Cumberland, MD-WV	101.14	
New England	New Haven, CT	49.16	
East North Central	Kokomo, IN	94.70	
	Steubenville, OH-WV	96.91	
South Atlantic	Cumberland, MD-WV	101.14	

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Figure 3. Heart disease: Deaths per 1,000 aged population, by State: 1986



SOURCES: Population death rates were derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
United States	26,698,924	96.70	1,724,501	64.59	104.2	6.727	21.29
Metropolitan	19,363,284	95.80	1,209,064	62.61-	104.2	6.534-	21.44+
Rural	7,335,640	99.16	515,437	69.78+	104.1	7.225+	20.89-
Northeast	6,276,897	98.04	409,455	65.27+	103.0	6.738	23.33+
Metropolitan	5,564,648	97.84	357,371	64.29	103.5	6.676	23.41+
Rural	712,249	99.69	52,084	72.91+	99.5-	7.217+	22.63+
New England	1,569,313	96.20	100,601	63.85	104.3	6.674	21.09
Metropolitan	1,342,886	95.66	85,673	63.59-	105.1	6.708	21.24
Rural	226,427	99.53	14,928	65.38	99.6	6.466	20.09-
Maine	153,209	99.88	10,283	66.48	108.2	7.221	21.54
Metropolitan	82,345	99.89	5,427	65.50	108.5	7.191	21.93
Rural	70,864	99.87	4,856	67.61	107.8	7.255	21.11
New Hampshire	114,752	98.98	7,167	62.35	108.7	6.792	21.12
Metropolitan	74,135	98.55	4,582	61.77	113.0	6.916	21.75
Rural	40,617	99.77	2,585	63.39	101.2	6.567	19.93
Vermont	62,781	99.82	4,095	64.56	103.5	6.616	21.80
Metropolitan	10,422	99.91	646	61.61	108.2	6.688	22.55
Rural	52,359	99.80	3,449	65.15	102.6	6.602	21.66
Massachusetts	709,478	93.75	48,634	68.06+	102.4	6.980+	21.12
Metropolitan	659,025	93.40	45,360	68.32+	103.9	7.122+	21.40
Rural	50,453	98.58	3,274	64.69	80.3-	5.085-	17.04-
Rhode Island	132,332	97.59	9,158	69.27+	101.9	7.064	22.18
Metropolitan	132,332	97.59	9,158	69.27+	101.9	7.064	22.18
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Connecticut	396,761	97.56	21,264	53.72-	106.6	5.738-	20.34-
Metropolitan	384,627	97.50	20,500	53.43-	106.5	5.711-	20.36-
Rural	12,134	99.66	764	62.77	108.6	6.553	19.96
Middle Atlantic	4,707,584	98.68	308,854	65.75+	102.6-	6.759	24.11+
Metropolitan	4,221,762	98.55	271,698	64.51	103.0	6.666	24.14+
Rural	485,822	99.76	37,156	76.45+	99.5-	7.573+	23.82+
New York	2,143,249	98.98	126,118	58.47-	104.8	6.168-	24.66+
Metropolitan	1,922,371	98.89	110,427	57.09-	105.5	6.071-	24.87+
Rural	220,878	99.75	15,691	70.44+	99.8	7.020	22.85+

See notes at end of table.

Table 2. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
New Jersey Metropolitan Rural	916,155	97.94	61,355	67.59+	105.1	7.143+	23.70+
	916,155	97.84	61,355	67.59+	105.1	7.143+	23.70+
	0	0.00	0	0.00	0.0	0.000	0.00
Pennsylvania Metropolitan Rural	1,648,180	98.75	121,381	74.35+	98.9-	7.347+	23.60+
	1,383,236	98.56	99,916	72.96+	98.8-	7.212+	23.39+
	264,944	99.78	21,465	81.55+	99.3	8.050+	24.68+
North Central Metropolitan Rural	6,901,975	96.39	452,488	65.20+	108.8+	7.079+	21.92+
	4,398,761	95.22	284,994	64.90	108.5+	7.026+	22.57+
	2,503,214	98.51	167,494	65.71+	109.3+	7.168+	20.80-
East North Central Metropolitan Rural	4,745,430	97.76	317,525	67.04+	108.5+	7.249+	23.16+
	3,453,558	97.13	228,230	66.45+	108.3+	7.173+	23.49+
	1,291,872	99.47	89,295	68.60+	109.0+	7.448+	22.29+
Ohio Metropolitan Rural	1,263,869	99.46	89,069	70.95+	109.3+	7.677+	23.44+
	987,528	99.60	68,712	70.23+	108.9+	7.589+	23.38+
	276,341	98.95	20,357	73.46+	110.7+	7.985+	23.64+
Indiana Metropolitan Rural	623,062	97.86	39,987	64.32	115.2+	7.372+	22.18+
	599,457	97.01	24,617	61.94-	112.1+	6.920	22.16+
	223,605	99.41	15,370	68.52+	120.1+	8.163+	22.21+
Illinois Metropolitan Rural	1,265,011	95.90	84,620	66.84+	106.1	7.120+	23.37+
	952,934	94.73	62,085	65.41	106.2	6.975+	23.70+
	312,077	99.68	22,535	71.12+	105.7	7.541+	22.37+
Michigan Metropolitan Rural	982,444	96.86	67,769	69.50+	107.1	7.445+	24.59+
	744,347	96.06	51,060	69.22+	107.9+	7.466+	25.15+
	238,097	99.44	16,709	70.38+	104.6	7.383+	22.74+
Wisconsin Metropolitan Rural	611,044	99.60	36,080	58.38-	107.2	6.242-	20.92
	369,292	99.43	21,756	58.47-	108.8	6.299-	21.35
	241,752	99.86	14,324	58.24-	104.9	6.155-	20.28-
West North Central Metropolitan Rural	2,156,545	93.50	134,963	61.24-	109.5+	6.724	19.47-
	945,203	88.82	56,764	59.35-	109.2+	6.509-	19.63-
	1,211,342	97.51	78,199	62.69-	109.8+	6.885	19.34-
Minnesota Metropolitan Rural	397,258	77.30	22,426	54.88-	116.6+	6.404	17.99-
	187,915	67.07	10,122	52.65-	118.7+	6.231-	17.58-
	209,343	89.55	12,304	56.87-	114.9+	6.555	18.47-

See notes at end of table.

Table 2. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Iowa	404,057	99.37	23,152	56.03-	114.4+	6.427	19.58-
	136,818	98.24	7,602	54.99-	118.5+	6.591	20.46
	267,239	99.96	15,550	56.55-	112.5+	6.347	19.16-
Missouri	655,875	98.17	44,440	66.89+	106.0	7.100+	21.18
	383,255	96.99	25,327	65.55	102.3	6.742	21.56
	272,620	99.88	19,113	68.75+	111.0+	7.589+	20.67
North Dakota	85,433	98.28	5,839	66.54	90.2-	6.031-	17.32-
	22,964	98.14	1,364	58.16-	99.8	5.937	17.33-
	62,469	98.34	4,475	69.60+	87.2-	6.066	17.32-
South Dakota	96,216	99.59	6,362	64.25	105.5	6.806	19.56-
	20,427	99.92	1,167	56.58-	113.4	6.594	19.51
	75,789	99.51	5,195	66.27	103.7	6.861	19.57-
Nebraska	209,910	98.52	11,545	53.46-	120.1+	6.501	18.96-
	70,076	95.86	3,633	51.32-	115.6	5.922-	18.27-
	139,834	99.91	7,912	54.51-	122.1+	6.773	19.30-
Kansas	307,796	95.82	21,199	67.33+	104.5	7.073	19.15-
	123,746	93.24	7,545	60.55-	108.1	6.562	18.77-
	184,048	97.63	13,650	71.77+	102.7	7.397+	19.42-
South	8,980,101	97.94	608,259	67.97+	102.7-	6.958+	20.84-
	5,757,016	96.87	363,464	63.52-	102.8	6.518-	20.48-
	3,223,085	99.91	244,795	75.87+	102.5	7.729+	21.49
South Atlantic	4,668,855	96.31	303,602	65.58+	101.6-	6.641	20.72-
	3,313,125	94.94	207,381	63.04-	100.9-	6.361-	20.28-
	1,355,730	99.84	96,221	71.81+	103.0	7.335+	21.89+
Delaware	70,251	99.94	4,695	67.83	103.2	6.946	23.25+
	44,355	99.95	2,788	63.87	100.3	6.336	21.98
	25,896	99.94	1,907	74.57+	107.6	7.988	25.34+
Maryland	436,606	99.49	30,866	71.54+	95.1-	6.736	22.26+
	395,091	99.44	27,970	71.73+	95.2-	6.773	22.20+
	41,515	99.95	2,896	69.79+	94.1	6.390	22.80
District of Col.	66,196	99.75	3,414	50.98-	84.8-	4.198-	21.36
	66,196	99.75	3,414	50.98-	84.8-	4.198-	21.36
	0	0.00	0	0.00	0.0	0.000	0.00

See notes at end of table.

Table 2. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Virginia	566,135	99.91	35,252	63.03-	100.7	6.322-	21.19
	355,193	99.87	20,454	58.52-	101.8	5.938-	21.01
	210,942	99.97	14,798	70.55+	99.2	6.953	21.50
West Virginia	244,259	98.98	19,607	80.54+	107.5	8.572+	23.86+
	90,704	97.39	6,930	77.04+	113.5	8.647+	24.49+
	153,555	99.95	12,677	82.58+	104.3	8.528+	23.50+
North Carolina	689,138	99.93	38,452	56.82-	112.8+	6.353-	21.46
	346,905	99.89	17,474	51.28-	113.7+	5.776-	20.98
	342,233	99.96	20,978	62.44-	112.0+	6.939	21.93+
South Carolina	329,020	99.44	20,671	64.43	108.5	6.926	22.55+
	186,873	99.05	10,874	59.80-	112.4+	6.629	22.48+
	142,147	99.95	9,797	70.49+	104.2	7.311+	22.65+
Georgia	561,716	99.71	39,440	71.31+	103.9	7.320+	21.99+
	313,319	99.54	19,903	64.73	105.8	6.771	21.31
	248,397	99.93	19,537	79.54+	101.9	8.000+	22.82+
Florida	1,705,534	90.97	111,205	65.09	97.3-	6.378-	18.83-
	1,514,469	90.04	97,574	64.22	97.7-	6.334-	16.86-
	191,045	99.17	13,631	72.10+	93.9-	6.734	18.56-
East South Central	1,726,272	99.80	129,504	75.04+	99.5-	7.402+	21.76+
	873,594	99.64	58,403	67.28+	101.0	6.733	21.28
	852,678	99.97	71,101	82.91+	98.3-	8.065+	22.23+
Kentucky	422,657	99.70	31,601	74.69+	106.6	7.905+	22.41+
	183,264	99.37	11,736	64.34	108.4	6.902	21.76
	239,393	99.96	19,865	82.54+	105.5	8.653+	22.89+
Tennessee	550,327	99.65	41,638	75.92+	99.6-	7.527+	21.55
	342,007	99.46	22,863	67.19+	100.7	6.728	21.19
	208,320	99.96	18,775	90.20+	98.4-	8.825+	22.13+
Alabama	463,131	99.97	34,325	74.45+	92.4-	6.804	21.11
	281,960	99.97	19,416	69.47+	95.9-	6.591	20.76
	181,171	99.97	14,909	82.12+	87.9-	7.123	21.63
Mississippi	290,157	99.98	21,940	74.83+	100.0	7.379+	22.20+
	66,363	99.96	4,388	66.52	105.4	6.893	22.56
	223,794	99.98	17,552	77.25+	98.8	7.515+	22.10+

See notes at end of table.

Table 2. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
West South Central Metropolitan Rural	2,584,974	99.74	175,153	67.54+	106.8+	7,219+	20.45-
	1,570,297	99.59	97,680	62.45-	107.7+	6,727	20.50-
	1,014,677	99.97	77,473	75.29+	105.8	7,946+	20.39-
Arkansas Metropolitan Rural	321,739	99.96	23,866	73.71+	104.3	7,643+	21.58
	100,966	99.98	6,829	67.52	104.1	6,999	22.12
	220,773	99.95	17,037	76.52+	104.4	7,932+	21.33
Louisiana Metropolitan Rural	415,968	99.98	32,311	77.44+	104.6	7,910+	21.75
	268,137	99.98	19,173	71.80+	107.9	7,577+	22.13+
	147,831	99.99	13,138	87.48+	99.9	8,477+	21.10
Oklahoma Metropolitan Rural	378,716	99.02	26,885	70.21+	106.0	7,524+	21.02
	180,038	98.00	11,316	62.66	106.1	6,736	20.24-
	198,678	99.96	15,569	76.96+	106.0	8,212+	21.71
Texas Metropolitan Rural	1,468,551	99.81	92,091	62.68-	108.5+	6,846	19.69-
	1,021,156	99.73	60,362	59.44-	108.3+	6,473-	19.96-
	447,395	99.97	31,729	69.91+	108.8+	7,653+	19.12-
West Metropolitan Rural	4,539,951	93.08	254,299	56.04-	101.2-	5,712-	18.59-
	3,642,659	91.96	203,235	55.82-	102.0-	5,747-	18.81-
	897,092	97.88	51,064	56.94-	98.2-	5,568-	17.55-
Mountain Metropolitan Rural	1,200,638	94.36	63,922	53.55-	102.5	5,479-	17.63-
	720,893	92.10	36,334	50.89-	105.6	5,376-	17.78-
	479,745	97.98	27,588	57.50-	98.3-	5,630-	17.39-
Montana Metropolitan Rural	97,248	99.90	5,815	59.56-	99.4	5,952-	17.75-
	21,173	99.90	1,111	52.68-	107.6	5,757	17.54-
	76,075	99.91	4,704	61.46	97.5	6,006	17.81-
Idaho Metropolitan Rural	109,822	99.77	6,282	57.11-	92.8-	5,287-	17.97-
	18,471	99.90	787	42.92-	92.1	3,916-	19.60
	91,351	99.74	5,495	59.95-	92.9-	5,558-	17.65-
Wyoming Metropolitan Rural	42,408	99.91	2,619	61.63	103.0	6,290	18.98-
	12,265	99.93	644	52.95-	108.4	5,660	19.23
	30,143	99.89	1,975	65.11	101.3	6,539	18.87-
Colorado Metropolitan Rural	266,663	94.73	13,268	49.63-	104.8	5,242-	17.14-
	201,737	95.23	9,848	48.87-	105.1	5,198-	16.98-
	64,926	93.22	3,420	51.94-	103.8	5,372-	17.64-

See notes at end of table.

Table 2. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Mexico Metropolitan Rural	125,371	92.49	6,663	53.20-	90.8-	4.826-	15.82-
	51,612	85.86	2,346	45.90-	89.7	4.138-	15.55-
	73,759	97.76	4,317	58.22-	91.4-	5.291-	16.03-
Arizona Metropolitan Rural	348,748	91.33	18,731	54.49-	104.7	5.667-	17.32-
	257,931	89.11	13,889	54.49-	104.6	5.677-	17.46-
	90,817	98.31	4,842	54.47-	104.9	5.636-	16.88-
Utah Metropolitan Rural	128,579	99.92	6,157	48.03-	106.7	5.005-	18.55-
	93,319	99.94	4,247	45.77-	110.3	4.903-	18.82-
	35,260	99.88	1,910	53.95-	99.0	5.267-	17.80-
Nevada Metropolitan Rural	81,799	86.15	4,387	55.49-	115.8	6.600	21.08
	64,385	84.73	3,462	55.75-	118.2	6.782	21.73
	17,414	91.83	925	54.52-	106.7	5.940	18.50-
Pacific Metropolitan Rural	3,339,313	92.62	190,377	56.93-	100.8-	5.794-	18.91-
	2,921,966	91.93	166,901	57.02-	101.2-	5.836-	19.05-
	417,347	97.77	23,476	56.30-	98.0-	5.496-	17.74-
Washington Metropolitan Rural	461,706	92.41	24,972	53.96-	104.6	5.660-	18.19-
	346,977	90.86	18,212	52.38-	107.0	5.634-	18.19-
	114,729	97.42	6,760	58.71-	98.1	5.742-	18.20-
Oregon Metropolitan Rural	303,778	86.84	15,006	49.15-	107.2	5.218-	17.92-
	181,677	80.38	8,539	46.51-	115.3+	5.316-	18.04-
	122,101	98.65	6,467	53.13-	96.2	5.064-	17.71-
California Metropolitan Rural	2,477,248	93.71	146,399	59.04-	99.3-	5.937-	19.34-
	2,330,007	93.36	137,594	58.98-	99.3-	5.932-	19.40-
	147,241	99.57	8,805	60.07-	100.3	6.021-	18.05-
Alaska Metropolitan Rural	16,348	99.78	834	52.61-	104.8	5.676	17.85-
	5,625	99.75	329	62.06	131.5	8.620	18.54
	10,723	99.80	505	47.87-	88.2	4.305-	17.51-
Hawaii Metropolitan Rural	80,233	83.64	3,166	39.46-	110.9	4.352-	14.35-
	57,680	83.31	2,227	38.91-	118.4	4.584-	14.35-
	22,553	84.47	939	40.85-	93.8	3.802-	14.33-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths			Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees		
United States	26,698,924	96.70	1,724,501	64.59	104.2	6.727		21.29
Northeast	6,276,897	98.04	409,455	65.27+	103.0	6.738		23.33+
New England	1,569,313	96.20	100,601	63.85	104.3	6.674		21.09
Maine	153,209	99.88	10,283	66.48	108.2	7.221		21.54
Bangor, ME	16,035	99.87	1,122	69.38	118.8	8.220		23.04
Lewiston-Auburn, ME	13,464	99.93	1,018	75.06+	95.2	7.093		21.13
Portland, ME	52,846	99.89	3,287	61.88	109.1	6.902		21.81
New Hampshire	114,752	98.98	7,167	62.35	108.7	6.792		21.12
Manchester, NH	44,397	97.91	2,741	61.52	113.9	6.971		21.82
Portsmouth, NH	29,738	99.52	1,841	62.16	111.6	6.831		21.65
Vermont	62,781	99.82	4,095	64.56	103.5	6.616		21.80
Burlington, VT	10,422	99.91	646	61.61	108.2	6.688		22.55
Massachusetts	709,478	93.75	48,634	68.06+	102.4	6.980+		21.12
Boston, MA	429,794	95.67	29,831	68.70+	101.4	6.998		21.38
New Bedford, MA	65,540	98.67	4,485	68.84+	113.9	7.803+		21.24
Pittsfield, MA	20,281	91.00	1,342	65.89	97.1	6.557		21.45
Springfield, MA	72,225	92.57	4,342	60.06-	116.0	6.981		22.20
Worcester, MA	71,185	79.42	5,360	74.56+	102.2	7.573+		20.91
Rhode Island	132,332	97.59	9,158	69.27+	101.9	7.064		22.18
Providence, RI	132,332	97.59	9,158	69.27+	101.9	7.064		22.18
Connecticut	396,761	97.56	21,264	53.72-	106.6	5.738-		20.34-
Bridgeport, CT	96,911	96.63	5,272	54.53-	108.7	5.921-		20.20
Hartford, CT	157,139	99.16	8,561	54.57-	102.4	5.623-		19.99-
New Haven, CT	102,964	95.31	5,049	49.16-	112.0	5.546-		21.11
New London, CT	27,613	99.70	1,618	59.07	103.6	6.109		20.11

See notes at end of table.

Table 3. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths			Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees		
Middle Atlantic	4,707,584	98.68	308,854	65.75+	102.6-	6.759		24.11+
New York	2,143,249	98.98	126,118	58.47-	104.8	6.168-		24.66+
Albany, NY	115,122	98.78	6,578	57.07-	107.4	6.146		23.20+
Binghamton, NY	35,576	99.96	2,385	67.01	105.9	7.192		23.14
Buffalo, NY	134,451	98.66	7,811	58.85-	114.4+	6.732		25.33+
Elmira, NY	13,699	99.94	788	57.55	108.5	6.203		22.85
Glens Falls, NY	15,222	99.63	1,025	66.90	95.0	6.622		22.43
Nassau-Suffolk, NY	297,143	99.88	17,868	60.60-	113.2+	6.973		24.84+
New York, NY	997,473	99.58	55,878	55.14-	100.3-	5.601-		26.02+
Niagara Falls, NY	30,841	99.69	2,244	74.09+	97.1	7.007		24.18+
Orange County, NY	30,488	99.89	2,157	70.65+	102.6	7.264		25.14+
Poughkeepsie, NY	27,864	98.47	1,709	60.83	99.9	5.998		23.35
Rochester, NY	102,542	98.80	5,570	53.95-	113.6	6.099-		19.62-
Syracuse, NY	75,217	99.92	3,343	44.64-	118.3	5.248-		21.36
Utica-Rome, NY	46,733	99.90	3,071	66.10	117.0	7.773+		24.51+
New Jersey	916,155	97.84	61,355	67.59+	105.1	7.143+		23.70+
Atlantic City, NJ	46,406	97.93	3,345	71.75+	95.4	6.849		23.36+
Bergen-Passaic, NJ	171,246	99.45	10,955	64.40	107.7	7.033		23.87+
Jersey City, NJ	64,069	99.25	4,734	74.85+	103.7	7.706+		25.28+
Middlesex, NJ	91,009	94.70	6,133	69.87+	100.0	7.022		22.60+
Monmouth-Ocean, NJ	154,643	99.57	9,473	61.59-	111.4	6.912		22.82+
Newark, NJ	211,511	99.40	14,327	67.99+	96.7-	6.638		23.29+
Trenton, NJ	38,499	97.14	2,817	74.13+	101.5	7.506		24.10+
Vineland, NJ	16,382	96.17	1,231	76.15+	125.8	9.401+		26.89+
Pennsylvania	1,648,180	98.75	121,381	74.35+	98.9-	7.347+		23.60+
Allentown, PA-NJ	94,668	99.09	6,206	66.48	104.3	6.913		23.88+
Altoona, PA	20,692	99.99	1,420	68.70	108.4	7.481		26.60+
Beaver County, PA	27,562	99.95	2,197	81.95+	99.3	8.098		22.00
Erie, PA	35,244	99.92	2,276	65.76	103.7	6.808		23.87+
Harrisburg, PA	72,929	99.95	4,240	58.66-	119.6+	6.893		23.56+
Johnstown, PA	40,260	99.97	3,647	92.34+	99.7	9.182+		25.39+
Lancaster, PA	48,045	99.93	2,758	56.84-	105.0	5.900		21.25
Philadelphia PA-NJ	569,054	95.81	41,806	73.96+	95.8-	7.093+		22.62+
Pittsburgh, PA	323,494	99.06	25,434	80.03+	96.3-	7.797+		24.73+
Reading, PA	48,476	99.88	2,783	57.36-	110.1	6.096		20.31
Scranton, PA	122,888	99.95	8,625	71.49+	110.0	7.880+		26.60+
Sharon, PA	19,009	99.97	1,555	82.60+	85.0-	7.056		23.36
State College, PA	10,032	99.97	746	74.74	110.4	8.302		24.35
Williamsport, PA	16,877	99.98	1,238	73.21+	94.8	6.832		21.50
York, PA	46,541	99.96	2,677	55.26-	111.6	6.160		21.77

See notes at end of table.

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
North Central	6,901,975	96.39	452,488	65.20+	108.8+	7.079+	21.92+
East North Central	4,745,430	97.76	317,525	67.04+	108.5+	7.249+	23.16+
Ohio	1,263,869	99.46	89,069	70.95+	109.3+	7.677+	23.44+
Akron, OH	75,615	99.90	5,239	69.92+	114.2	7.893+	21.28
Canton, OH	51,895	99.97	3,344	65.12	118.3	7.467	21.69
Cincinnati, OH-KY-IN	159,407	99.96	10,463	65.66	110.1	7.181	23.09+
Cleveland, OH	242,585	99.71	17,219	72.00+	106.5	7.722+	24.25+
Columbus, OH	121,377	99.73	8,070	66.91	110.8	7.284	23.32+
Dayton, OH	103,547	99.95	6,847	66.75	117.0+	7.756+	23.50+
Hamilton, OH	26,009	99.95	1,928	74.47+	115.5	8.612+	22.38
Lima, OH	19,579	99.97	1,511	77.09+	83.1-	6.270	19.89
Lorain-Elyria, OH	27,340	99.85	2,162	80.67+	93.2	7.613	22.81
Mansfield, OH	15,230	99.96	840	55.77-	119.0	6.453	22.28
Steubenville, OH-WV	21,934	98.57	2,077	96.91+	108.6	10.365+	24.41+
Toledo, OH	70,660	99.95	5,103	72.43+	106.1	7.644+	25.85+
Youngstown, OH	69,319	99.95	5,043	74.45+	105.8	7.744+	23.86+
Indiana	623,062	97.86	39,987	64.32	115.2+	7.372+	22.18+
Anderson, IN	17,198	99.83	1,256	73.90+	116.0	8.248	21.86
Bloomington, IN	7,913	99.87	449	56.68	134.8	7.447	19.93
Elkhart-Goshen, IN	15,647	99.92	906	57.78	118.5	6.769	22.82
Evansville, IN-KY	34,434	95.72	2,072	60.02	124.2+	7.491	22.11
Fort Wayne, IN	37,565	97.77	2,124	56.40-	121.0	6.763	23.18
Gary-Hammond, IN	61,160	97.01	4,118	69.07+	107.1	7.390	25.15+
Indianapolis, IN	118,407	93.81	6,571	55.62-	106.2	6.011-	20.83
Kokomo, IN	10,842	99.94	1,017	94.70+	122.3	11.669+	25.02
Lafayette, IN	11,228	99.92	693	61.39	90.9	5.251	18.63
Muncie, IN	13,759	99.91	812	59.56	125.0	7.369	22.66
South Bend, IN	33,170	99.93	1,826	55.08-	103.1	5.660	20.75
Terre Haute, IN	19,585	99.89	1,353	69.09	119.0	8.004	22.03
Illinois	1,265,011	95.90	84,620	66.84+	106.1	7.120+	23.37+
Aurora-Elgin, IL	30,946	98.68	1,877	60.40	108.4	6.492	21.76
Bloomington, IL	12,672	99.94	860	67.02	105.5	7.106	21.46
Champaign, IL	13,391	99.91	745	55.57-	117.0	6.418	17.32-
Chicago, IL	608,135	92.94	39,502	65.38	104.5	6.891	24.87+
Decatur, IL	15,992	99.97	1,102	68.52	128.9	8.759+	22.36
Joliet, IL	28,047	97.18	2,080	74.78+	104.8	7.924	24.90+
Kankakee, IL	12,020	99.94	893	74.38+	100.6	7.447	20.89
Lake County, IL	36,099	96.52	2,365	66.24	100.9	6.668	21.06
Peoria, IL	43,549	99.93	2,507	57.32-	122.3+	6.983	19.34-
Rockford, IL	28,351	88.93	1,629	57.35-	116.4	6.782	20.37
Springfield, IL	24,799	99.96	1,456	58.57-	108.6	6.415	21.94

See notes at end of table.

Table 3. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges	30-day post-admission deaths			Total deaths per 1,000 persons
	Number	As percent of all enrollees		Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	
Michigan	982,444	96.86	67,769	69.50+	107.1	7.445+	24.59+
Ann Arbor, MI	17,760	95.12	1,093	61.40	97.2	5.980	19.18
Battle Creek, MI	16,831	99.89	1,157	68.71	114.3	7.665	22.47
Benton Harbor, MI	21,618	99.88	1,598	74.25+	94.7	7.127	21.98
Detroit, MI	448,826	96.43	32,595	73.60+	108.4	7.988+	27.41+
Flint, MI	43,084	91.01	3,234	75.75+	104.5	7.783	25.23+
Grand Rapids, MI	64,091	95.42	2,805	43.49-	123.9+	5.424-	19.62-
Jackson, MI	17,046	99.82	1,202	70.87	103.5	7.150	24.22
Kalamazoo, MI	21,512	99.85	1,084	50.47-	115.8	6.042	20.74
Lansing, MI	32,460	90.23	2,054	63.18	103.0	6.397	20.70
Muskegon, MI	18,957	98.06	995	53.12-	140.5+	7.624	23.39
Saginaw, MI	42,162	96.18	3,243	77.75+	92.1	7.214	22.43
Wisconsin	611,044	99.60	36,080	58.38-	107.2	6.242-	20.92
Appleton, WI	34,483	99.96	1,809	51.96-	100.3	5.195-	18.75-
Eau Claire, WI	16,955	99.94	1,105	64.24	103.5	6.705	21.40
Green Bay, WI	19,185	99.97	1,000	52.02-	117.2	6.074	19.84
Janesville, WI	16,529	99.85	999	59.66	120.4	7.009	22.03
Kenosha, WI	14,291	99.91	957	66.94	105.3	7.061	23.01
LaCrosse, WI	11,858	99.91	618	51.39-	118.5	6.096	19.53
Madison, WI	30,776	99.74	1,480	47.54-	112.7	5.256-	19.35
Milwaukee, WI	166,813	99.21	10,536	62.81	103.6	6.386	22.19
Racine, WI	20,503	99.90	1,115	54.23-	115.9	6.249	21.21
Sheboygan, WI	14,461	99.98	733	50.20-	137.8+	7.095	21.93
Wausau, WI	12,945	99.95	631	48.49-	117.2	5.787	20.27
West North Central	2,156,545	93.50	134,963	61.24-	109.5+	6.724	19.47-
Minnesota	397,258	77.30	22,426	54.88-	115.6+	6.404	17.99-
Duluth, MN-WI	29,977	76.74	1,639	54.46-	136.9+	7.456	21.58
Minneapolis, MN-WI	141,769	64.45	7,691	52.90-	119.5+	6.292	17.38-
Rochester, MN	9,393	99.67	508	52.77-	81.0	4.545-	15.79-
St. Cloud, MN	12,248	70.92	783	61.92	110.6	6.706	17.08-
Iowa	404,057	99.37	23,152	56.03-	114.4+	6.427	19.58-
Cedar Rapids, IA	19,323	99.94	1,147	58.77	114.5	6.676	19.30
Davenport, IA-IL	44,646	99.94	2,705	60.46	111.1	6.755	21.38
Des Moines, IA	40,067	94.50	2,061	51.01-	118.2	6.098	20.23
Dubuque, IA	11,460	99.95	589	50.91-	115.7	5.666	21.66
Iowa City, IA	6,240	99.90	274	43.09-	137.9	5.893	19.25
Sioux City, IA-NE	15,951	99.96	931	57.12-	135.0+	7.893	20.58
Waterloo, IA	19,521	99.96	1,201	60.96	112.2	7.170	20.56

See notes at end of table.

Table 3. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Missouri	655,875	98.17	44,440	66.89+	106.0	7.100+	21.18
Columbia, MO	8,560	99.98	417	48.22-	86.7	4.222-	14.73-
Joplin, MO	19,275	99.95	1,416	73.33+	99.8	7.472	22.06
Kansas City, MO-KS	154,919	95.72	10,290	65.91	98.3	6.509	20.11-
St. Joseph, MO	13,630	99.97	856	61.94	111.4	6.730	21.55
St. Louis, MO-IL	283,167	97.43	19,208	67.49+	105.5	7.114	22.72+
Springfield, MO	27,676	99.94	1,790	64.15	102.5	6.720	18.10-
North Dakota	85,433	98.28	5,839	66.54	90.2-	6.031-	17.32-
Bismarck, ND	8,160	95.13	540	65.26	109.8	7.431	18.33
Fargo, ND-MN	14,138	96.57	770	52.96-	102.2	5.454	17.51-
Grand Forks, ND	5,687	99.95	328	56.18	77.7	4.462	16.33-
South Dakota	96,216	99.59	6,362	64.25	105.5	6.806	19.56-
Rapid City, SD	7,152	99.89	451	62.99	101.7	6.585	20.58
Sioux Falls, SD	13,275	99.93	716	53.17-	120.5	6.598	18.99
Nebraska	209,910	98.52	11,545	53.46-	120.1+	6.501	18.96-
Lincoln, NE	20,994	98.50	841	39.30-	120.0	4.779-	16.24-
Omaha, NE-IA	57,609	95.39	3,303	56.92-	114.5	6.507	19.58-
Kansas	507,796	95.82	21,199	67.33+	104.5	7.073	19.15-
Lawrence, KS	4,965	87.78	279	54.88	125.2	6.879	12.96-
Topeka, KS	18,983	97.26	979	50.36-	88.4	4.477-	18.33-
Wichita, KS	45,844	88.57	2,893	62.64	113.8	7.161	19.22-
South	8,980,101	97.94	608,259	67.97+	102.7-	6.958+	20.84-
South Atlantic	4,668,855	96.31	303,602	65.58+	101.6-	6.641	20.72-
Delaware	70,251	99.94	4,695	67.83	103.2	6.946	23.25+
Wilmington, DE-NJ-MD	58,114	99.65	3,939	68.86+	107.0	7.340	22.77
Maryland	436,606	99.49	30,866	71.54+	95.1-	6.736	22.26+
Baltimore, MD	244,878	99.90	18,095	74.87+	92.9-	6.898	23.17+
Cumberland, MD-WV	17,051	99.95	1,708	101.14+	85.2-	8.524	25.84+
Hagerstown, MD	14,522	99.95	897	62.21	111.3	6.912	22.05
District of Col.	66,196	99.75	3,414	50.98-	84.8-	4.198-	21.36
Washington, DC-MD-VA	261,121	99.05	14,385	55.67-	95.5-	5.262-	19.65-

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Table 3. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1985

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Virginia	566,135	99.91	35,252	63.03-	100.7	6.322-	21.19
Charlottesville, VA	12,020	99.92	709	58.88	87.2	5.148	18.15-
Danville, VA	15,532	99.99	843	55.13-	129.5	7.245	24.65+
Lynchburg, VA	18,110	99.99	914	50.63-	111.2	5.490	21.28
Norfolk, VA	102,601	99.96	6,026	60.20-	108.7	6.559	23.52+
Richmond, VA	85,698	99.98	5,560	65.74	89.8-	5.798-	20.86
Roanoke, VA	30,622	99.98	1,713	55.65-	104.7	5.838	21.33
West Virginia	244,259	98.98	19,607	80.54+	107.5	8.572+	23.86+
Charleston, WV	34,215	99.96	2,465	72.98+	100.4	7.240	25.17+
Huntington, WV-KY-OH	40,891	99.95	3,040	74.51+	121.7+	8.830+	23.92+
Parkersburg, WV-OH	19,888	99.94	1,388	69.52	116.8	8.071	20.62
Wheeling, WV-OH	22,016	82.51	1,919	87.84+	121.3	10.310+	24.91+
North Carolina	689,138	99.93	38,452	56.82-	112.8+	6.353-	21.46
Asheville, NC	24,469	99.92	1,036	42.18-	104.1	4.439-	18.67-
Burlington, NC	14,505	99.99	649	45.83-	126.2	5.489	21.28
Charlotte, NC	109,337	99.79	5,702	53.26-	117.9+	6.252	21.89
Fayetteville, NC	13,388	99.98	647	50.22-	124.5	6.347	26.04+
Greensboro, NC	99,387	99.97	5,301	54.16-	115.4	6.092	21.14
Hickory, NC	23,392	99.97	1,185	52.02-	125.6	6.589	24.36+
Jacksonville, NC	5,134	99.86	291	59.23	89.7	5.257	16.39-
Raleigh-Durham, NC	56,484	99.86	2,636	47.32-	109.2	5.163-	18.79-
Wilmington, NC	12,634	99.97	696	56.81	87.6	4.874-	18.35
South Carolina	329,020	99.44	20,671	64.43	108.5	6.926	22.55+
Anderson, SC	16,583	99.70	1,049	64.76	109.5	7.057	18.80
Charleston, SC	34,246	98.90	1,923	57.81-	100.5	5.759	22.92
Columbia, SC	35,361	99.98	1,906	55.38-	107.2	5.874	22.23
Florence, SC	11,195	99.96	934	86.52+	111.9	9.498+	31.73+
Greenville, SC	65,893	98.01	3,582	55.70-	119.9+	6.558	21.86
Georgia	561,716	99.71	39,440	71.31+	103.9	7.320+	21.99+
Albany, GA	9,292	99.92	518	57.00	125.5	6.860	18.15
Athens, GA	13,510	99.96	876	65.51	111.7	7.223	23.01
Atlanta, GA	189,539	99.27	12,363	66.35	100.0	6.555	21.09
Augusta, GA-SC	32,938	99.93	2,054	63.88	115.1	7.335	21.60
Columbus, GA-AL	22,847	99.96	1,251	56.18-	122.5	6.941	23.53
Macon, GA	25,929	99.97	1,661	65.69	111.8	7.197	21.13
Savannah, GA	25,338	99.94	1,465	58.92	94.2	5.606	22.28

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Table 3. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Florida	1,705,534	90.97	111,205	65.09	97.3-	6,378-	18.83-
Bradenton, FL	42,906	99.68	2,644	60.70	104.9	6,348	16.93-
Daytona Beach, FL	62,616	92.90	3,621	57.60-	103.4	6,050	18.24-
Fort Lauderdale, FL	181,839	81.09	13,652	74.02+	90.7-	6,806	18.44-
Fort Myers, FL	61,428	99.65	3,453	57.09-	101.1	5,835-	18.22-
Fort Pierce, FL	41,198	99.28	2,564	63.50	89.6-	5,635-	17.55-
FT. Walton Beach, FL	10,169	99.88	844	86.03+	79.1-	6,682	22.22
Gainesville, FL	16,758	99.58	1,021	61.28	100.7	6,261	18.12-
Jacksonville, FL	80,895	98.22	5,371	67.31	93.6-	6,267	23.52+
Lakeland, FL	55,495	99.56	3,300	59.90-	112.1	6,705	18.09-
Melbourne, FL	46,501	99.72	3,329	73.50+	100.7	7,511	19.41-
Miami-Hialeah, FL	168,502	79.57	12,832	73.71+	90.9-	6,962	19.75-
Naples, FL	23,433	99.75	1,054	45.78-	93.5	4,213-	12.96-
Ocala, FL	31,367	99.50	1,983	65.08	93.5	6,098	19.77
Orlando, FL	90,604	98.55	5,552	61.94	104.0	6,416	21.28
Panama City, FL	11,817	99.70	765	66.47	98.8	6,555	19.06
Pensacola, FL	29,972	99.89	1,925	65.75	110.6	7,047	23.26
Sarasota, FL	77,895	99.81	4,498	57.25-	95.0	5,426-	14.74-
Tallahassee, FL	17,414	97.85	985	56.91-	93.7	5,318	15.44-
Tampa, FL	323,951	87.05	19,236	58.83-	105.9	6,251-	18.82-
West Palm Beach, FL	139,729	85.22	8,945	63.79	92.6-	5,922-	17.98-
East South Central	1,726,272	99.80	129,504	75.04+	99.5-	7,402+	21.76+
Kentucky	422,657	99.70	31,601	74.69+	106.6	7,905+	22.41+
Lexington, KY	31,008	98.87	1,703	55.04-	112.7	6,349	22.37
Louisville, KY-IN	107,485	99.20	6,949	64.99	103.8	6,621	21.12
Owensboro, KY	10,319	99.96	732	71.69	84.2	6,053	18.51
Tennessee	550,327	99.65	41,638	75.92+	99.6-	7,527+	21.55
Chattanooga, TN-GA	50,061	99.97	3,456	69.62+	102.7	6,981	23.21+
Clarksville, TN-KY	12,541	99.91	764	60.75	102.5	6,227	20.73
Jackson, TN	10,064	99.95	585	57.20	109.7	6,251	17.22-
Johnson City, TN-VA	55,068	99.97	3,588	65.91	113.5	7,497	20.83
Knoxville, TN	70,970	99.96	4,720	67.29	114.2	7,590+	17.74-
Memphis, TN-AR-MS	88,836	98.06	5,821	65.58	97.3	6,349	24.06+
Nashville, TN	92,994	99.96	6,670	71.91+	91.0-	6,541	21.02

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Alabama	463,131	99.97	34,325	74.45+	92.4-	6.804	21.11
Anniston, AL	13,124	99.97	1,062	82.69+	78.0-	6.366	24.08
Birmingham, AL	108,546	99.98	7,450	68.83+	99.0	6.735	20.32
Dothan, AL	12,690	99.94	1,145	91.06+	94.7	8.330	22.47
Florence, AL	16,687	99.97	1,345	81.48+	84.2-	6.780	20.39
Gadsden, AL	14,295	99.97	1,271	91.06+	84.7	7.683	25.28+
Huntsville, AL	17,137	99.96	933	55.53-	109.9	6.107	19.81
Mobile, AL	50,513	99.96	3,158	63.34	102.8	6.518	19.74
Montgomery, AL	29,832	99.97	1,825	61.47	101.2	6.149	20.33
Tuscaloosa, AL	13,604	99.99	895	65.85	79.0-	5.048-	18.91
Mississippi	290,157	99.98	21,940	74.83+	100.0	7.379+	22.20+
Biloxi-Gulfport, MS	18,079	99.97	1,552	87.27+	96.9	8.398	26.41+
Jackson, MS	35,305	99.98	1,810	50.97-	115.8	5.837	20.76
Pascagoula, MS	8,556	99.88	729	87.76+	101.9	8.864	24.83
West South Central	2,584,974	99.74	175,153	67.54+	106.8+	7.219+	20.45-
Arkansas	321,739	99.96	23,866	73.71+	104.3	7.643+	21.58
Fayetteville, AR	11,803	99.95	853	71.89	112.9	8.104	21.46
Fort Smith, AR-OK	21,413	99.98	1,641	76.62+	106.7	8.323+	23.75
Little Rock, AR	50,966	99.99	3,223	63.45	99.6	6.269	20.94
Pine Bluff, AR	11,012	99.98	617	55.06-	129.1	7.004	25.33+
Louisiana	415,968	99.98	32,311	77.44+	104.6	7.910+	21.75
Alexandria, LA	13,819	99.96	932	66.92	102.7	6.717	22.80
Baton Rouge, LA	39,583	99.97	2,670	68.26	105.7	7.181	19.82
Houma-Thibodaux, LA	13,501	100.00	1,093	82.96+	116.0	9.410+	20.36
Lafayette, LA	14,620	99.99	997	68.64	97.6	6.634	18.78
Lake Charles, LA	16,436	99.98	1,208	74.69+	112.4	8.158	23.09
Monroe, LA	14,648	99.99	1,191	80.57+	106.0	8.150	25.14+
New Orleans, LA	118,708	99.98	8,655	73.28+	104.9	7.543+	22.79+
Shreveport, LA	36,822	99.98	2,427	65.19	122.2+	7.678	22.50
Oklahoma	378,716	99.02	26,885	70.21+	106.0	7.524+	21.02
Enid, OK	8,215	99.94	480	57.29	110.1	6.384	21.73
Lawton, OK	8,221	99.99	520	64.22	101.8	6.589	19.70
Oklahoma City, OK	88,646	97.45	5,550	62.25	105.6	6.622	19.51-
Tulsa, OK	71,032	98.13	4,475	63.02	107.6	6.940	21.06

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Texas	1,468,551	99.81	92,091	62.68-	108.5+	6.846	19.69-
Abilene, TX	13,100	99.96	842	63.76	123.1	7.831	19.39
Amarillo, TX	19,063	99.97	960	50.80-	101.9	5.222-	20.91
Austin, TX	47,578	99.95	2,320	48.63-	99.0	4.871-	18.79-
Beaumont, TX	42,323	99.98	3,280	77.77+	106.6	8.460+	22.23
Brazoria, TX	12,486	99.78	963	79.04+	117.8	9.085+	20.63
Brownsville, TX	20,169	99.86	1,005	49.72-	105.9	5.254-	15.00-
Bryan, TX	6,955	99.96	388	55.37	144.7	8.191	15.75-
Corpus Christi, TX	28,417	95.56	1,879	66.73	90.8	6.144	19.43
Dallas, TX	172,118	99.95	9,787	57.31-	114.4+	6.588	20.82
El Paso, TX	37,292	99.94	1,564	42.35-	98.8	4.201-	16.73-
Fort Worth, TX	97,947	99.96	5,606	57.70-	119.3+	6.884	21.08
Galveston, TX	19,376	99.94	1,300	68.03	100.6	6.891	24.39+
Houston, TX	187,992	99.85	11,490	61.96-	105.7	6.566	21.27
Killeen-Temple, TX	17,182	99.97	922	53.47-	134.2+	7.196	20.24
Laredo, TX	8,421	99.99	632	73.85	113.9	8.397	17.69-
Longview, TX	20,547	99.98	1,301	62.91	121.5	7.756	17.74-
Lubbock, TX	18,957	99.97	1,431	75.77+	91.3	6.978	21.58
McAllen, TX	27,402	99.82	1,496	54.50-	109.8	5.804	13.95-
Midland, TX	7,362	99.96	489	67.43	88.6	6.024	19.17
Odessa, TX	9,207	99.99	632	70.51	92.6	6.463	14.37-
San Angelo, TX	11,213	99.99	729	64.64	79.9	5.124	17.58-
San Antonio, TX	107,989	99.98	5,648	52.44-	100.9	5.440-	18.63-
Sherman-Denison, TX	14,532	99.99	1,152	78.63+	104.3	8.340	22.28
Texarkana, TX-AR	15,315	99.99	1,137	73.65+	89.9	6.616	19.51
Tyler, TX	18,223	99.98	1,155	63.61	108.4	6.916	18.51-
Victoria, TX	6,871	99.97	493	72.34	93.4	6.835	21.64
Waco, TX	23,624	99.99	1,203	50.53-	137.0+	8.817	21.32
Wichita Falls, TX	14,462	99.97	939	64.37	126.4	8.027	22.32
West	4,539,951	93.08	254,299	56.04-	101.2-	5.712-	18.59-
Mountain	1,200,638	94.36	63,922	53.55-	102.5	5.479-	17.63-
Montana	97,248	99.90	5,815	59.56-	99.4	5.952-	17.75-
Billings, MT	12,097	99.88	567	47.15-	109.1	5.325	15.49-
Great Falls, MT	9,076	99.91	544	60.01	106.0	6.322	20.20
Idaho	109,822	99.77	6,282	57.11-	92.8-	5.287-	17.97-
Boise City, ID	18,471	99.90	787	42.92-	92.1	3.916-	19.60
Wyoming	42,408	99.91	2,619	61.63	103.0	6.290	18.98-
Casper, WY	5,379	99.91	298	56.08	103.0	5.938	17.76
Cheyenne, WY	6,886	99.96	346	50.53-	113.4	5.447	20.38

See notes at end of table.

Table 3.—Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan Statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Colorado	266,663	94.73	13,268	49.63-	104.8	5.242-	17.14-
Boulder-Longmont, CO	15,143	97.96	895	58.53	73.7-	4.254-	15.17-
Colorado Springs, CO	24,899	95.03	1,107	45.07-	112.8	5.187-	16.66-
Denver, CO	119,624	94.10	5,778	48.39-	107.3	5.291-	16.92-
Fort Collins, CO	15,089	99.71	744	49.02-	103.9	5.232	17.89-
Greeley, CO	11,610	99.62	569	50.36-	113.2	5.481	17.83-
Pueblo, CO	15,372	94.43	735	47.80-	109.5	5.191-	18.19-
New Mexico	125,371	92.49	6,663	53.20-	90.8-	4.826-	15.82-
Albuquerque, NM	33,783	81.01	1,478	44.32-	93.2	4.153-	16.52-
Las Cruces, NM	9,375	99.94	538	57.70	89.0	5.145	13.99-
Santa Fe, NM	8,454	93.66	330	39.10-	75.6	2.978-	12.74-
Arizona	348,748	91.33	18,731	54.49-	104.7	5.667-	17.32-
Phoenix, AZ	187,381	86.74	10,143	54.86-	101.3	5.540-	17.48-
Tucson, AZ	70,550	96.06	3,746	53.53-	113.5	6.038	17.42-
Utah	128,579	99.92	6,157	48.03-	106.7	5.005-	18.55-
Provo-Orem, UT	16,076	99.93	821	51.38-	109.1	5.437	18.28-
Salt Lake City, UT	77,243	99.94	3,426	44.60-	110.6	4.792-	18.94-
Nevada	81,799	86.15	4,387	55.49-	115.8	6.600	21.08
Las Vegas, NV	45,252	82.98	2,567	59.10-	120.4	7.367	22.65
Reno, NV	19,133	89.17	895	47.96-	111.9	5.460	19.59
Pacific	3,339,313	92.62	190,377	56.93-	100.8-	5.794-	18.91-
Washington	461,706	92.41	24,972	53.96-	104.6	5.660-	18.19-
Bellevue, WA	13,629	99.51	740	53.63-	80.9	4.348-	17.23-
Bremerton, WA	15,439	96.59	755	49.07-	91.3	4.571-	17.44-
Olympia, WA	14,254	90.98	896	62.62	96.0	6.011	18.78
Richland, WA	12,559	99.85	699	56.83	95.6	5.439	15.52-
Seattle, WA	159,828	86.57	8,392	52.36-	109.0	5.742-	17.44-
Spokane, WA	41,237	94.51	2,076	49.89-	104.2	5.291-	19.16-
Tacoma, WA	50,245	97.24	2,477	49.39-	117.0	5.822-	20.79
Vancouver, WA	17,048	80.32	804	47.52-	111.2	5.056-	18.35-
Yakima, WA	22,738	99.74	1,373	59.90	114.6	6.867	18.43-
Oregon	303,778	86.84	15,006	49.15-	107.2	5.218-	17.92-
Eugene, OR	28,947	88.67	1,338	46.26-	110.0	5.139-	16.16-
Medford, OR	20,326	99.76	995	48.93-	101.9	4.966-	17.08-
Portland, OR	99,155	72.79	4,550	45.27-	120.0+	5.350-	18.55-
Salem, OR	33,249	90.39	1,656	48.95-	114.9	5.563-	18.22-

See notes at end of table.

Table 3. Heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1985

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
California	2,477,248	93.71	146,399	59.04-	99.3-	5.937-	19.34-
Anaheim-Santa Ana, CA	167,171	89.39	10,357	61.81-	100.4	6.376	18.82-
Bakersfield, CA	44,969	99.76	3,178	71.43+	85.5-	6.211	21.17
Chico, CA	27,102	99.09	1,632	60.38	106.6	6.317	15.95-
Fresno, CA	58,425	99.90	3,345	56.89-	111.4	6.432	19.48-
Los Angeles, CA	677,939	91.40	43,144	63.42	96.0-	6.218-	22.08+
Merced, CA	13,462	99.86	980	73.46	104.9	7.881	18.35-
Modesto, CA	33,619	98.80	2,170	64.86	90.7	5.687	15.97-
Oakland, CA	188,258	99.08	10,701	56.91-	99.2	5.727-	18.57-
Oxnard-Ventura, CA	49,488	93.74	2,628	53.35-	108.7	5.946	17.60-
Redding, CA	17,796	99.73	1,039	59.41	98.3	5.757	18.24-
Riverside, CA	203,246	90.92	13,011	64.26	103.0	6.546	19.33-
Sacramento, CA	120,273	91.81	6,363	53.42-	103.6	5.548-	18.46-
Salinas, CA	29,131	99.86	1,547	52.95-	109.0	5.801	17.90-
San Diego, CA	205,402	91.35	11,114	54.24-	95.5-	5.299-	17.24-
San Francisco, CA	163,753	89.02	7,948	47.80-	104.3	5.133-	17.18-
San Jose, CA	105,258	99.50	5,354	51.08-	106.0	5.412-	18.08-
Santa Barbara, CA	38,021	99.70	1,857	48.17-	116.4	5.661-	17.25-
Santa Cruz, CA	24,640	99.77	1,252	49.70-	100.6	4.916-	17.29-
Santa Rosa, CA	44,775	99.49	2,402	53.31-	86.7-	4.723-	15.99-
Stockton, CA	40,855	91.54	2,525	61.28	97.6	5.818	18.90-
Vailejo, CA	35,778	98.59	2,239	62.57	104.2	6.597	18.32-
Visalia, CA	28,811	99.91	1,995	68.92	90.4	6.370	20.53
Yuba City, CA	11,835	99.35	813	69.24	92.6	6.350	21.36
Alaska	16,348	99.78	834	52.61-	104.8	5.676	17.85-
Anchorage, AK	5,625	99.75	329	62.06	131.5	8.620	18.54
Hawaii	80,233	83.64	3,166	39.46-	110.9	4.352-	14.35-
Honolulu, HI	57,680	83.31	2,227	38.91-	118.4	4.584-	14.35-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Ischemic heart disease

Ischemic heart disease is a major category of heart disease, accounting for about one-half of all discharges for heart disease and about 70 percent of all deaths from heart disease in 1986. Ischemic heart disease includes the diagnoses of acute myocardial infarction, angina pectoris, and coronary atherosclerosis. In 1986, in the aged Medicare population not enrolled in health maintenance organizations, there were 820,480 discharges for ischemic heart disease, for a rate of 30.73 discharges per 1,000 enrollees. The death rate from ischemic heart disease in the aged population was 14.56 per 1,000 persons; this condition accounted for 28 percent of all deaths among persons aged 65 or over in 1986. The 30-day post-admission mortality rate for aged Medicare enrollees was 98.6 deaths per 1,000 discharges, or about 10 percent.

Age and sex patterns

Ischemic heart disease causes more morbidity and mortality among men than women. As shown in Table 1, discharge rates and death rates for ischemic heart disease were higher for men than for women in all age groups. Discharge rates ranged from 57 to 18 percent higher for men in the three age groups 65 years or over, with the difference between men and women decreasing with age. The difference in death

rates between men and women in the general aged population also decreased with age. In the age group 65–74 years, the death rate for men was 112 percent higher (10.40 deaths per 1,000 persons versus 4.90 for women); in the group 85 years or over, the rate for men was 19 percent higher (53.76 versus 45.00). Men also had higher 30-day post-admission death rates than women in all three age groups.

By age, the highest discharge rate for ischemic heart disease was for enrollees aged 75–84 years (34.40 discharges per 1,000 enrollees). The rates for enrollees aged 65–74 years and 85 years or over were similar—about 29 discharges per 1,000 (Table 1). However, the population death rate for ischemic heart disease increased with age. The rate for persons aged 65–74 was 7.33 deaths per 1,000, the rate for persons 75–84 years was 18.29, and that for persons 85 years or over was 47.48. Post-admission mortality rates also increased substantially as age increased.

Patterns by race

In 1986, discharge rates per 1,000 enrollees for ischemic heart disease were notably higher for white persons than black persons overall (31.68 versus 21.88) and in each age group for both men and women. The discharge rate for white men was 57–85 percent higher than the rate for black men in the three age groups; the rate for white women was 14–35 percent higher than the rate for black women.

Overall, population death rates were also higher for white than black persons (14.92 versus 12.23). Population death rates were lower for black men in all three age groups. In contrast, black women had a higher death rate in the group 65–74 years, a rate similar to that of white women in the age group 75–84 years, and a lower rate in the group 85 years or over. Rates of 30-day post-admission mortality were lower for black persons than white persons, especially in the older age groups.

Variations by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region, division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan statistical area (MSA) level are shown in Table 3. Figures 1–3 were derived from the data in these tables.

Discharge rates

The geographic pattern of hospitalization for ischemic heart disease was similar to the pattern for all heart disease. In 1986, the highest rates were generally found in the Southern and Middle Atlantic States, as shown in Figure 1. The lowest discharge rates were generally found in the Western States. West Virginia had the highest discharge rate (40.29 discharges per 1,000 enrollees), and Hawaii had the lowest

NOTE: Ischemic heart disease is ICD-9-CM codes 410–414.

(18.03). The New England, Middle Atlantic, and East South Central Divisions had the highest median discharge rates for MSAs and rural areas; the Mountain and Pacific Divisions had the lowest rates (Figure 2).

Population death rates

In 1986, the highest population mortality rates from ischemic heart disease generally were found in the Northeastern United States and the lowest rates generally were found in the Western States, with the exception of California (Figure 3). New York had the highest rate (20.02 per 1,000), and the District of Columbia had the lowest (8.40 per 1,000), followed by New Mexico (8.47).

Correlations between rates

The correlation between the ischemic heart disease discharge rate (discharges per 1,000 enrollees) and population death rate (deaths per 1,000 persons) was 0.31, indicating a direct but small relationship between population mortality and hospitalizations for ischemic heart disease across MSAs and rural areas. A significant indirect but small correlation of -0.32 was found between the 30-day post-admission death rate per 1,000 discharges and the discharge rate per 1,000 enrollees across MSAs and rural areas. This suggests that there may be a tendency for cases in areas with higher discharge rates to be less severely ill, on average.

Urban-rural patterns

In the Nation as a whole, the discharge rate for ischemic heart disease was higher for Medicare enrollees residing in rural areas than for urban residents (33.92 discharges per 1,000 versus 29.51). The higher discharge rate for rural residents was seen in all four census regions. The 30-day post-admission death rate per 1,000 discharges was also higher for rural residents in the Nation as a whole and in each region except the Northeast. The death rate from ischemic heart disease in the general aged population was lower for rural residents than urban residents nationwide (14.04 deaths per 1,000 versus 14.82) and in each census region except the South.

Table 1. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

Age, sex, and race	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
All persons (1)	26,698,924	96.70	820,480	30.73	98.6	3.03	14.56
65-74 years	16,162,594	96.33	470,000	29.07	68.9	2.00	7.33
75-84 years	8,020,447	96.96	275,926	34.40	124.7	4.29	18.29
85 years or over	2,515,883	98.32	74,554	29.63	189.1	5.60	47.48
Men	10,650,991	96.01	395,349	37.11	100.2	3.72	17.18
65-74 years	7,056,445	95.90	258,113	36.57	70.8	2.59	10.40
75-84 years	2,912,366	96.02	114,462	39.30	143.1	5.63	24.02
85 years or over	682,180	97.22	22,774	33.38	216.8	7.24	53.76
Women	16,047,933	97.16	425,131	26.49	97.1	2.57	12.77
65-74 years	9,106,149	96.66	211,887	23.26	66.6	1.55	4.90
75-84 years	5,108,081	97.51	161,464	31.60	111.7	3.53	14.88
85 years or over	1,833,703	98.74	51,780	28.23	176.9	4.99	45.00
White	23,574,066	96.62	747,037	31.68	99.8	3.16	14.92
65-74 years	14,207,064	96.23	425,679	29.96	69.2	2.07	7.40
75-84 years	7,134,499	96.88	252,707	35.42	126.4	4.48	18.63
85 years or over	2,232,503	98.26	68,651	30.75	191.7	5.90	49.03
Men	9,391,016	95.94	363,817	38.74	100.9	3.91	17.69
65-74 years	6,216,472	95.83	237,247	38.16	70.9	2.71	10.62
75-84 years	2,573,989	95.94	105,584	41.01	144.5	5.93	24.72
85 years or over	600,555	97.12	20,986	34.94	220.2	7.69	56.09
Women	14,183,050	97.07	383,220	27.01	98.8	2.67	13.03
65-74 years	7,990,592	96.55	188,432	23.58	67.0	1.58	4.83
75-84 years	4,560,510	97.42	147,123	32.26	113.4	3.66	15.02
85 years or over	1,631,948	98.69	47,665	29.20	179.2	5.23	46.30
Black	1,991,943	97.86	43,589	21.88	84.4	1.85	12.23
65-74 years	1,213,014	97.54	25,080	20.67	65.5	1.35	7.45
75-84 years	583,429	98.11	14,242	24.41	100.1	2.44	16.19
85 years or over	195,500	99.11	4,267	21.82	142.7	3.12	32.84
Men	792,788	97.49	17,051	21.50	92.5	1.99	13.54
65-74 years	519,305	97.28	10,691	20.58	70.7	1.46	9.19
75-84 years	215,401	97.67	5,067	23.52	120.4	2.83	18.57
85 years or over	58,082	98.74	1,293	22.26	163.2	3.63	34.95
Women	1,199,155	98.10	26,538	22.13	79.2	1.75	11.34
65-74 years	693,709	97.74	14,389	20.74	61.6	1.28	6.17
75-84 years	368,028	98.37	9,175	24.93	88.9	2.22	14.74
85 years or over	137,418	99.26	2,974	21.64	133.8	2.90	31.86

(1) Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

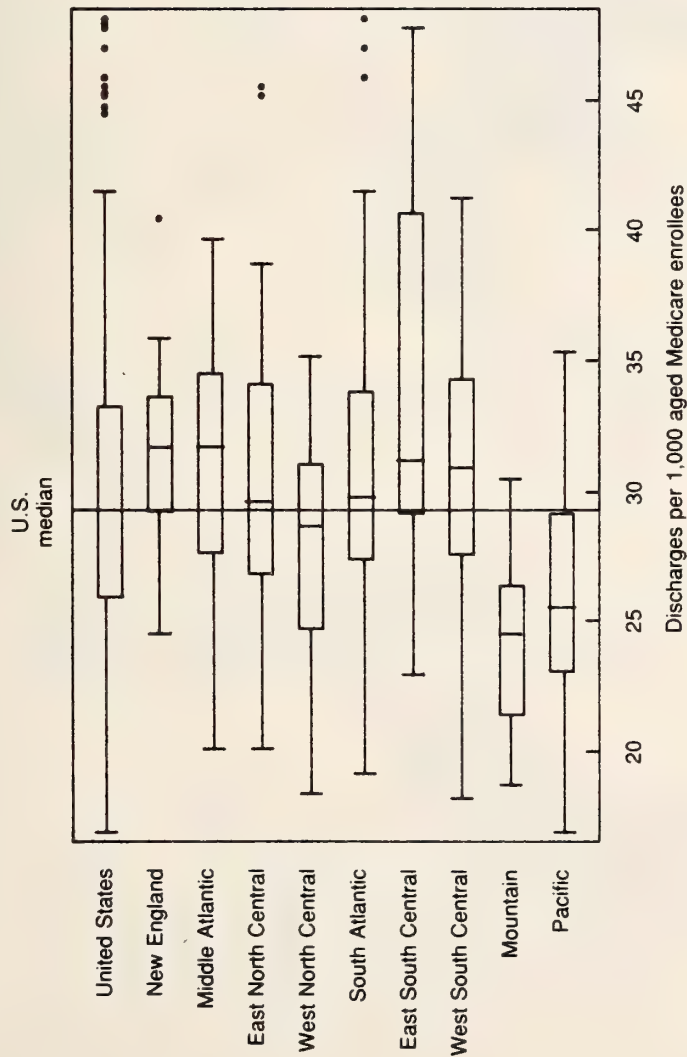
SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Figure 1. Ischemic heart disease: Short-stay hospital discharges per 1,000 aged Medicare enrollees, by State: 1986



NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included.
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Figure 2. Ischemic heart disease: Short-stay hospital discharges per 1,000 aged Medicare enrollees for rural and metropolitan statistical areas, by division: United States, 1986

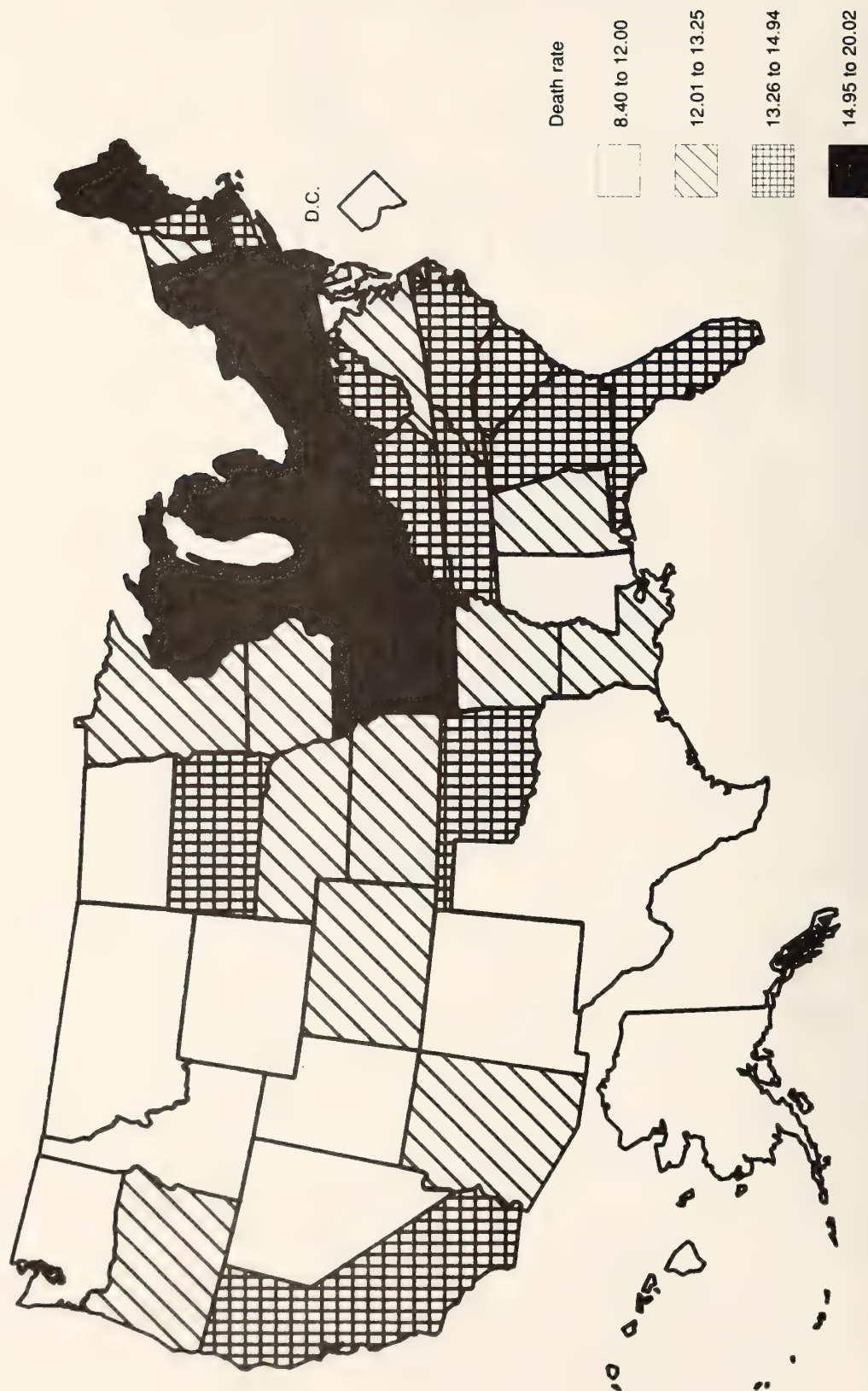


Outliers for discharges per 1,000 enrollees

Area	Rural or metropolitan statistical area	Rate
United States	Rural counties, TN	44.48
	Anniston, AL	44.88
	Florence, AL	45.13
	Kokomo, IN	45.17
	Steubenville, OH-WV	45.51
	Wheeling, WV-OH	45.92
	Dothan, AL	47.00
	Gadsden, AL	47.89
	Ft. Walton Beach, FL	47.96
New England	Cumberland, MD-WV	48.17
	Lewiston-Auburn, ME	40.39
East North Central	Kokomo, IN	45.17
	Steubenville, OH-WV	45.51
South Atlantic	Wheeling, WV-OH	45.92
	Ft. Walton Beach, FL	47.96
	Cumberland, MD-WV	48.17

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System.

Figure 3. Ischemic heart disease: Deaths per 1,000 aged population, by State: 1986



SOURCES: Population death rates were derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	820,480	30.73	98.6	3.028	14.61
Metropolitan	19,363,284	95.80	570,097	29.51-	97.7	2.884-	14.82+
Rural	7,335,640	99.16	250,383	33.92+	100.5+	3.405+	14.04-
Northeast	6,276,897	98.04	193,827	30.98	98.1	3.041	17.18+
Metropolitan	5,564,648	97.84	168,943	30.49	98.6	3.011	17.30+
Rural	712,249	99.69	24,884	34.82+	94.8	3.271+	16.24+
New England	1,569,313	96.20	48,846	31.24	103.1+	3.235+	15.16+
Metropolitan	1,342,986	95.66	41,624	31.15	103.9+	3.260+	15.35+
Rural	226,427	99.53	7,222	31.73	98.1	3.094	14.02
Maine	153,209	99.88	5,117	33.31+	105.3	3.529+	15.58+
Metropolitan	82,345	99.89	2,739	33.30+	104.9	3.517	15.13
Rural	70,864	99.87	2,378	33.32	105.8	3.544	16.10+
New Hampshire	114,752	98.98	3,512	30.59	110.2	3.379	14.64
Metropolitan	74,135	98.55	2,319	31.36	114.3	3.552	15.11
Rural	40,617	99.77	1,193	29.20	102.5	3.067	13.76
Vermont	62,781	99.82	1,903	30.19	105.2	3.100	13.05-
Metropolitan	10,422	99.91	329	31.63	115.0	3.545	12.06
Rural	52,359	99.80	1,574	29.91	103.2	3.013	13.24-
Massachusetts	709,478	93.75	23,366	33.15+	102.7	3.424+	15.38+
Metropolitan	659,025	93.40	21,690	33.15+	104.7+	3.498+	15.63+
Rural	50,453	98.58	1,676	33.09	75.4-	2.448-	11.58-
Rhode Island	132,332	97.59	4,577	34.78+	100.3	3.521+	17.96+
Metropolitan	132,332	97.59	4,577	34.78+	100.3	3.521+	17.96+
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Connecticut	396,761	97.56	10,371	26.21-	101.2	2.659-	14.14
Metropolitan	384,627	97.50	9,970	25.99-	100.8	2.631-	14.09-
Rural	12,134	99.66	401	33.11	112.6	3.537	15.76
Middle Atlantic	4,707,584	98.68	144,981	30.90	96.4-	2.976	17.89+
Metropolitan	4,221,762	98.55	127,319	30.28-	96.8	2.932-	17.96+
Rural	485,822	99.76	17,662	36.27+	93.4	3.354+	17.28+
New York	2,143,249	98.98	59,544	27.84-	100.2	2.795-	20.02+
Metropolitan	1,922,371	98.89	52,165	27.21-	101.0	2.759-	20.33+
Rural	220,878	99.75	7,379	33.27+	94.3	3.102	17.36+

See notes at end of table.

Table 2. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1985

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Jersey	916,155	97.84	28,795	31.56+	96.0	3.031	17.42+
Metropolitan	916,155	97.84	28,795	31.56+	96.0	3.031	17.42+
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Pennsylvania	1,648,180	98.75	56,642	34.52+	92.4-	3.185+	15.24+
Metropolitan	1,383,236	98.56	46,359	33.70+	92.3-	3.111	14.86
Rural	264,944	99.78	10,283	38.78+	92.7	3.569+	17.21+
North Central	6,901,975	96.39	211,937	30.70	104.0+	3.173+	15.44+
Metropolitan	4,398,761	95.22	130,889	29.88-	102.1+	3.022	15.83+
Rural	2,503,214	98.51	81,048	32.13+	106.9+	3.428+	14.79
East North Central	4,745,430	97.76	147,991	31.24+	102.1+	3.158+	16.49+
Metropolitan	3,453,558	97.13	105,074	30.55	101.2+	3.055	16.56+
Rural	1,291,872	99.47	42,917	33.05+	104.1+	3.423+	16.30+
Ohio	1,263,869	99.46	41,034	32.58+	104.5+	3.326+	16.37+
Metropolitan	987,528	99.60	31,326	31.88+	104.0+	3.244+	16.28+
Rural	276,341	98.95	9,708	35.06+	106.0	3.611+	16.68+
Indiana	623,062	97.86	18,676	30.04	106.9+	3.188	15.75+
Metropolitan	399,457	97.01	11,499	28.90-	104.3	2.983	15.69+
Rural	223,605	99.41	7,177	32.06	110.8+	3.549+	15.85+
Illinois	1,265,011	95.90	38,419	30.45	100.1	3.048	16.54+
Metropolitan	952,934	94.73	27,457	28.95-	99.9	2.886	16.47+
Rural	312,077	99.68	10,962	35.00+	100.6	3.527+	16.76+
Michigan	982,444	96.86	32,967	33.61+	97.2	3.253+	17.56+
Metropolitan	744,347	96.06	24,709	33.35+	95.9	3.173	17.74+
Rural	238,097	99.44	8,258	34.42+	101.1	3.501+	16.98+
Wisconsin	611,044	99.60	16,895	27.52-	105.0+	2.863	15.67+
Metropolitan	369,292	99.43	10,083	27.29-	106.1	2.840	16.11+
Rural	241,752	99.86	6,812	27.85-	103.4	2.898	15.02
West North Central	2,156,545	93.50	63,946	29.53-	108.1+	3.206+	13.38-
Metropolitan	945,203	88.82	25,815	27.42-	105.4+	2.903	13.47-
Rural	1,211,342	97.51	38,131	31.16	109.9+	3.432+	13.30-
Minnesota	397,258	77.30	10,974	27.55-	118.5+	3.299+	12.45-
Metropolitan	187,915	67.07	4,627	24.84-	118.8+	2.964	12.06-
Rural	209,343	89.55	6,347	29.94	118.2+	3.590+	12.91-

See notes at end of table.

Table 2. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Iowa							
Metropolitan	404,057	99.37	11,419	28.14-	110.5+	3.129	12.56-
Rural	136,818	98.24	3,596	26.33-	115.2+	3.076	12.05-
	267,239	99.96	7,823	29.06-	108.4+	3.155	12.81-
Missouri							
Metropolitan	655,875	98.17	20,479	31.16	103.4	3.219+	15.00+
Rural	383,255	96.99	11,311	29.61-	95.2	2.831	15.56+
	272,620	99.88	9,168	33.31+	113.5+	3.750+	14.24
North Dakota							
Metropolitan	85,433	98.28	2,813	32.44	89.1	2.937	12.00-
Rural	22,964	98.14	659	28.53	97.6	2.899	12.75
	62,469	98.34	2,154	33.86+	86.4	2.951	11.72-
South Dakota							
Metropolitan	96,216	99.59	2,974	30.58	113.5	3.441	13.70
Rural	20,427	99.92	562	27.48	126.2	3.517	13.54
	75,789	99.51	2,412	31.41	110.6	3.422	13.74
Nebraska							
Metropolitan	209,910	98.52	5,372	25.43-	122.6+	3.174	13.01-
Rural	70,076	95.86	1,676	24.02-	120.3+	2.907	12.91-
	139,834	99.91	3,696	26.12-	123.6+	3.301	13.07-
Kansas							
Metropolitan	307,796	95.82	9,915	32.09+	99.1	3.180	13.14-
Rural	123,748	93.24	3,384	27.41-	100.6	2.737	12.30-
	184,048	97.63	6,531	35.21+	98.4	3.462+	13.69-
South							
Metropolitan	8,980,101	97.94	295,316	32.88+	96.9-	3.192+	13.11-
Rural	5,757,016	96.87	175,454	30.53	95.8-	2.927-	12.86-
	3,223,085	99.91	119,862	37.06+	98.6	3.656+	13.58-
South Atlantic							
Metropolitan	4,668,855	96.31	150,915	32.37+	93.7-	3.039	13.43-
Rural	3,313,125	94.94	102,851	31.10	92.1-	2.878-	13.19-
	1,355,730	99.84	48,064	35.47+	97.1	3.438+	14.08-
Delaware							
Metropolitan	70,251	99.94	2,316	33.07	94.0	3.145	12.53-
Rural	44,355	99.95	1,380	31.30	95.0	2.984	11.22-
	25,896	99.94	936	36.09+	92.5	3.419	14.70
Maryland							
Metropolitan	436,606	99.49	15,334	35.27+	85.7-	3.013	11.46-
Rural	395,091	99.44	13,962	35.52+	86.3-	3.056	11.32-
	41,515	99.95	1,372	32.92	80.4	2.607	12.77-
District of Col.							
Metropolitan	66,196	99.75	1,294	19.72-	66.6-	1.300-	8.40-
Rural	66,196	99.75	1,294	19.72-	66.6-	1.300-	8.40-
	0	0.00	0	0.00	0.0	0.000	0.00

See notes at end of table.

Table 2. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	16,527	29.32-	97.7	2.857	13.00-
Metropolitan	355,193	99.87	9,540	27.06-	99.0	2.676-	12.80-
Rural	210,942	99.97	6,987	33.08+	95.8	3.154	13.35-
West Virginia	244,259	98.98	9,835	40.29+	93.6	3.759+	14.94
Metropolitan	90,704	97.39	3,451	38.22+	102.2	3.818+	15.28
Rural	153,555	99.95	6,384	41.51+	89.1-	3.724+	14.74
North Carolina	689,138	99.93	20,184	29.49-	109.2+	3.224+	14.52
Metropolitan	346,905	98.89	9,176	26.67-	109.3+	2.930	14.47
Rural	342,233	99.96	11,008	32.34+	109.1+	3.521+	14.56
South Carolina	329,020	99.44	9,527	29.19-	111.3+	3.215	14.54
Metropolitan	186,873	99.05	5,075	27.41-	116.0+	3.138	14.76
Rural	142,147	99.95	4,452	31.52	106.0	3.315	14.26
Georgia	561,716	99.71	19,533	35.03+	96.1	3.330+	13.58-
Metropolitan	313,319	99.54	9,546	30.77	96.4	2.925	12.99-
Rural	248,397	99.93	9,987	40.38+	95.9	3.833+	14.28
Florida	1,705,534	90.97	56,365	32.85+	86.3-	2.871-	13.44-
Metropolitan	1,514,489	90.04	49,427	32.47+	86.2-	2.840-	13.45-
Rural	191,045	99.17	6,938	35.83+	87.0-	3.136	13.36-
East South Central	1,726,272	99.80	61,787	35.80+	97.1	3.476+	13.43-
Metropolitan	873,594	99.64	27,375	31.46	97.6	3.049	12.86-
Rural	852,678	99.97	34,412	40.22+	96.6	3.901+	14.00-
Kentucky	422,657	99.70	15,061	35.62+	101.5	3.622+	14.73
Metropolitan	183,264	99.37	5,341	29.31	103.8	3.006	14.07
Rural	239,393	99.96	9,720	40.40+	100.3	4.082+	15.22
Tennessee	550,327	99.65	19,830	36.07+	98.4	3.546+	14.04-
Metropolitan	342,007	99.46	10,535	30.91	97.8	3.007	12.81-
Rural	208,320	99.96	9,295	44.48+	99.0	4.420+	16.02+
Alabama	463,131	99.97	16,913	36.59+	89.3-	3.275+	12.51-
Metropolitan	281,960	99.97	9,492	33.79+	93.5	3.145	12.39-
Rural	181,171	99.97	7,421	40.92+	84.1-	3.471+	12.69-
Mississippi	290,157	99.98	9,983	34.32+	100.8	3.448+	11.86-
Metropolitan	66,363	99.96	2,007	30.26	99.8	2.983	11.69-
Rural	223,794	99.98	7,976	35.52+	101.0	3.580+	11.92-

See notes at end of table.

Table 2. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
West South Central	2,584,974	99.74	82,614	31.86+	102.7+	3.273+	12.32-
	1,570,297	99.59	45,228	28.82-	103.2+	2.966	12.13-
	1,014,677	99.97	37,386	36.53+	102.2	3.730+	12.61-
Arkansas	321,739	99.96	12,117	37.43+	95.9	3.570+	12.31-
	100,966	99.98	3,414	33.81+	102.6	3.440	12.33-
	220,773	99.95	8,703	39.06+	93.3	3.629+	12.30-
Louisiana	415,968	99.98	14,048	33.77+	101.6	3.345+	13.14-
	268,137	99.98	8,381	31.35	105.3	3.204	13.10-
	147,831	99.99	5,667	38.14+	96.5	3.589+	13.21-
Oklahoma	378,716	99.02	12,987	34.17+	103.1	3.557+	14.63
	180,038	98.00	5,357	29.80	103.0	3.104	14.19
	198,678	99.96	7,630	38.08+	103.1	3.955+	15.02
Texas	1,468,551	99.81	43,462	29.50-	104.8+	3.111	11.47-
	1,021,156	99.73	28,076	27.48-	102.7	2.830-	11.47-
	447,395	99.97	15,386	34.07+	108.6+	3.727+	11.46-
West	4,539,951	93.08	119,400	26.19-	94.0-	2.468-	12.88-
	3,642,859	91.96	94,811	25.98-	93.9-	2.452-	13.11-
	897,092	97.88	24,589	27.03-	94.2	2.536-	11.80-
Mountain	1,200,638	94.36	30,419	25.18-	98.9	2.489-	11.41-
	720,893	92.10	17,224	23.86-	100.2	2.392-	11.61-
	479,745	97.98	13,195	27.14-	97.3	2.634-	11.09-
Montana	97,248	99.90	2,689	27.38-	102.8	2.796	11.09-
	21,173	99.90	474	22.29-	118.4	2.670	10.52-
	76,075	99.91	2,215	28.79	99.5	2.831	11.25-
Idaho	109,822	99.77	3,066	27.59-	91.2	2.513-	11.67-
	18,471	99.90	386	20.88-	86.5	1.757-	13.61
	91,351	99.74	2,680	28.93	91.8	2.662	11.29-
Wyoming	42,408	99.91	1,217	28.49	109.5	3.188	11.91-
	12,265	99.93	288	23.49-	98.0	2.320	10.83-
	30,143	99.89	929	30.51	113.0	3.531	12.34-
Colorado	266,663	94.73	6,303	23.59-	97.8	2.331-	12.31-
	201,737	95.23	4,600	22.83-	98.1	2.274-	12.12-
	64,926	93.22	1,703	25.89-	96.9	2.502-	12.88-

See notes at end of table.

Table 2. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges			30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees		
New Mexico	125,371	92.49	3,069	24.29-	91.5	2.223-	8.47-	
	51,612	85.86	1,097	21.26-	92.5	1.958-	8.30-	
	73,759	97.76	1,972	26.39-	91.1	2.402-	8.61-	
Arizona	348,748	91.33	9,119	26.01-	97.8	2.517-	12.17-	
	257,931	89.11	6,725	26.03-	98.6	2.546-	12.42-	
	90,817	98.31	2,394	25.97-	95.4	2.435-	11.35-	
Utah	128,579	99.92	2,940	22.70-	105.4	2.345-	10.77-	
	93,319	99.94	2,066	22.04-	108.1	2.334-	10.91-	
	35,260	99.88	874	24.44-	99.1	2.375	10.38-	
Nevada	81,799	86.15	2,016	24.48-	110.4	2.783	10.50-	
	64,385	84.73	1,588	24.53-	106.8	2.696	10.38-	
	17,414	91.83	428	24.26-	123.7	3.098	11.00-	
Pacific	3,339,313	92.62	88,981	26.55-	92.3-	2.461-	13.37-	
	2,921,966	91.93	77,587	26.50-	92.5-	2.467-	13.46-	
	417,347	97.77	11,394	26.90-	90.6-	2.423-	12.61-	
Washington	461,706	92.41	11,878	25.60-	100.1	2.567-	11.81-	
	346,977	90.86	8,597	24.72-	101.8	2.524-	11.53-	
	114,729	97.42	3,281	28.23-	95.7	2.697	12.70-	
Oregon	303,778	86.84	7,120	23.30-	100.5	2.301-	13.25-	
	181,677	80.38	3,958	21.76-	110.2	2.356-	13.42-	
	122,101	98.65	3,162	25.55-	88.0	2.218-	12.92-	
California	2,477,248	93.71	68,155	27.45-	90.0-	2.488-	13.84-	
	2,330,007	93.36	63,819	27.34-	90.0-	2.480-	13.88-	
	147,241	99.57	4,336	29.03-	90.4	2.618-	13.07-	
Alaska	16,348	99.78	346	20.89-	116.4	2.471	11.54-	
	5,625	99.75	123	21.88-	146.5	3.417	13.21	
	10,723	99.80	223	20.38-	99.8	2.018	10.75-	
Hawaii	80,233	83.64	1,482	18.03-	91.7	1.631-	9.02-	
	57,680	83.31	1,090	18.53-	101.1	1.851-	8.94-	
	22,553	84.47	392	16.78-	66.5	1.104-	9.22-	

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	820,480	30.73	98.6	3,028	14.61
Northeast	6,276,897	98.04	193,827	30.98	98.1	3,041	17.18+
New England	1,569,313	96.20	48,846	31.24	103.1+	3,235+	15.16+
Maine	153,209	99.88	5,117	33.31+	105.3	3,529+	15.58+
Bangor, ME	16,035	99.87	576	35.82	112.9	3,944	14.27
Lewiston-Auburn, ME	13,464	99.93	542	40.39+	83.5	3,237	16.14
Portland, ME	52,846	99.89	1,621	30.72	108.8	3,457	15.12
New Hampshire	114,752	98.98	3,512	30.59	110.2	3,379	14.64
Manchester, NH	44,397	97.91	1,378	31.16	121.7+	3,783+	15.83
Portsmouth, NH	29,738	99.52	941	31.67	103.1	3,201	14.02
Vermont	62,781	99.82	1,903	30.19	105.2	3,100	13.05-
Burlington, VT	10,422	99.91	329	31.63	115.0	3,545	12.06
Massachusetts	709,478	93.75	23,366	33.15+	102.7	3,424+	15.38+
Boston, MA	429,794	95.67	14,357	33.64+	102.2	3,480+	15.73+
New Bedford, MA	65,540	98.67	2,191	33.66+	114.1	3,917+	17.51+
Pittsfield, MA	20,281	91.00	631	31.30	99.6	3,135	13.64
Springfield, MA	72,225	92.57	1,999	27.87-	121.8+	3,361	15.09
Worcester, MA	71,185	79.42	2,512	35.61+	98.8	3,476	14.69
Rhode Island	132,332	97.59	4,577	34.78+	100.3	3,521+	17.96+
Providence, RI	132,332	97.59	4,577	34.78+	100.3	3,521+	17.96+
Connecticut	396,761	97.56	10,371	26.21-	101.2	2,659-	14.14
Bridgeport, CT	96,911	96.63	2,539	26.29-	101.0	2,645	14.49
Hartford, CT	157,139	99.16	4,132	26.31-	101.0	2,704	14.07
New Haven, CT	102,964	95.31	2,515	24.55-	100.2	2,450-	13.58-
New London, CT	27,613	99.70	784	28.44	101.3	2,842	14.66

See notes at end of table.

Table 3. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths			Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees		
Middle Atlantic	4,707,584	98.68	144,981	30.90	96.4-	2.976	17.89+	
New York	2,143,249	98.98	59,544	27.84-	100.2	2.795-	20.02+	
Albany, NY	115,122	98.78	3,096	27.00-	103.9	2.791	18.04+	
Binghamton, NY	35,576	99.96	1,171	33.00	82.5	2.591	18.67+	
Buffalo, NY	134,451	98.66	3,784	28.35-	113.8+	3.180	20.48+	
Elmira, NY	13,699	99.94	365	26.74	105.2	2.856	18.05+	
Glens Falls, NY	15,222	99.63	435	28.52	100.5	2.991	18.27+	
Nassau-Suffolk, NY	297,143	99.88	8,626	29.06-	102.4	2.989	20.15+	
New York, NY	997,473	99.58	26,083	26.22-	96.6	2.578-	21.86+	
Niagara Falls, NY	30,841	99.69	1,214	39.52+	80.8	3.050	21.18+	
Orange County, NY	30,488	99.89	960	31.49	92.9	2.910	20.63+	
Poughkeepsie, NY	27,864	98.47	716	25.70-	101.0	2.539	19.40+	
Rochester, NY	102,542	98.80	2,764	27.07-	113.0	3.032	14.28	
Syracuse, NY	75,217	99.92	1,501	20.02-	127.4+	2.501-	14.73	
Utica-Rome, NY	46,733	99.90	1,450	31.20	123.6+	3.784+	18.42+	
New Jersey	916,155	97.84	28,795	31.56+	96.0	3.031	17.42+	
Atlantic City, NJ	46,406	97.93	1,516	32.68	88.8	2.914	16.82+	
Bergen-Passaic, NJ	171,246	99.45	5,175	30.29	94.6	2.882	19.08+	
Jersey City, NJ	64,069	99.25	2,154	33.95+	96.2	3.296	18.38+	
Middlesex, NJ	91,009	94.70	3,070	33.94+	95.1	3.239	17.62+	
Monmouth-Ocean, NJ	154,643	99.57	4,575	29.56	98.8	2.907	18.22+	
Newark, NJ	211,511	99.40	6,663	31.66	88.5-	2.798	16.65+	
Trenton, NJ	38,499	97.14	1,295	33.89	95.4	3.272	15.79	
Vineland, NJ	16,382	96.17	578	35.40	144.6+	4.939+	16.50	
Pennsylvania	1,648,180	98.75	55,642	34.52+	92.4-	3.185+	15.24+	
Allentown, PA-NJ	94,668	99.09	2,987	31.68	91.0	2.904	13.87	
Altoona, PA	20,692	99.99	689	33.42	104.2	3.384	19.79+	
Beaver County, PA	27,562	99.95	1,048	38.19+	84.3	3.161	15.27	
Erie, PA	35,244	99.92	980	27.94	93.2	2.581	17.48+	
Harrisburg, PA	72,929	99.95	1,942	26.75-	122.9+	3.182	14.39	
Johnstown, PA	40,260	99.97	1,596	39.79+	101.8	4.009+	18.31+	
Lancaster, PA	48,045	99.93	1,142	23.73-	105.3	2.428-	13.43	
Philadelphia PA-NJ	569,054	95.81	19,510	34.53+	87.9-	3.044	13.50-	
Pittsburgh, PA	323,494	99.06	11,490	35.76+	91.0-	3.280	17.64+	
Reading, PA	48,476	99.88	1,341	27.60-	97.0	2.594	12.25-	
Scranton, PA	122,888	99.95	4,109	33.73+	100.3	3.404	15.31	
Sharon, PA	19,009	99.97	703	37.02+	79.4	2.941	18.02+	
State College, PA	10,032	99.97	353	35.15	112.3	3.926	15.92	
Williamsport, PA	16,877	99.98	647	38.38+	81.7	3.067	12.67	
York, PA	48,541	99.96	1,280	26.32-	110.6	2.955	13.37	

See notes at end of table.

Table 3. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
North Central	6,901,975	96.39	211,937	30.70	104.0+	3.173+	15.44+
East North Central	4,745,430	97.76	147,991	31.24+	102.1+	3.158+	16.49+
Ohio	1,263,869	99.46	41,034	32.58+	104.5+	3.326+	16.37+
Akron, OH	75,615	99.90	2,385	31.68	99.7	3.067	14.00
Canton, OH	51,895	99.97	1,499	28.96	122.6+	3.451	16.14+
Cincinnati, OH-KY-IN	159,407	99.96	4,699	29.64	112.3+	3.273	15.77+
Cleveland, OH	242,585	99.71	7,515	31.19	99.0	3.040	17.90+
Columbus, OH	121,377	99.73	3,815	31.63	108.8	3.376	14.88
Dayton, OH	103,547	99.95	3,060	29.66	106.9	3.141	15.75+
Hamilton, OH	26,009	99.95	888	34.23	115.4	3.887	14.42
Lima, OH	19,579	99.97	720	36.80+	76.7	2.759	13.25
Lorain-Elyria, OH	27,340	99.85	1,004	36.77+	90.7	3.204	17.31+
Mansfield, OH	15,230	99.96	450	29.60	91.1	2.558	17.43+
Steubenville, OH-WV	21,934	98.57	993	45.51+	86.3	3.737	15.95
Toledo, OH	70,660	99.95	2,395	34.03+	108.2	3.616+	18.28+
Youngstown, OH	69,319	99.95	2,372	34.41+	95.3	3.198	17.16+
Indiana	623,062	97.86	18,676	30.04	106.9+	3.188	15.75+
Anderson, IN	17,198	99.83	599	35.04	98.6	3.317	15.14
Bloomington, IN	7,913	99.67	187	23.66-	132.1	2.899	15.52
Elkhart-Goshen, IN	15,647	99.92	457	29.27	126.3	3.621	15.77
Evansville, IN-KY	34,434	95.72	1,010	29.44	132.5+	3.900+	14.13
Fort Wayne, IN	37,565	97.77	938	25.03-	99.9	2.464	17.18+
Gary-Hammond, IN	61,160	97.01	1,805	29.61	99.2	2.844	18.57+
Indianapolis, IN	118,407	93.81	2,973	25.25-	101.0	2.571-	14.49
Kokomo, IN	10,842	99.94	487	45.17+	90.7	4.032	15.60
Lafayette, IN	11,228	99.92	356	31.79	76.0	2.293	14.46
Muncie, IN	13,759	99.91	372	27.22	120.9	3.183	17.01
South Bend, IN	33,170	99.93	835	25.20-	102.0	2.568	15.21
Terre Haute, IN	19,585	99.89	756	38.92+	113.2	4.447+	16.29
Illinois	1,265,011	95.90	38,419	30.45	100.1	3.048	16.54+
Aurora-Evanston, IL	30,946	98.58	850	27.56	97.5	2.666	17.26+
Bloomington, IL	12,672	99.94	361	28.58	114.8	3.245	16.24
Champaign, IL	13,391	99.91	356	26.69	135.4	3.298	13.02
Chicago, IL	608,135	92.94	17,458	28.90-	96.3	2.796-	16.71+
Decatur, IL	15,992	99.97	742	27.73	117.6	3.290	15.35
DeKalb, IL	28,047	97.18	885	31.64	103.6	3.267	18.14+
Joliet, IL	12,020	99.94	387	32.16	84.5	2.672	14.90
Kankakee, IL	36,099	96.52	1,030	28.61	87.0	2.418	16.49+
Lake County, IL	43,549	99.93	1,177	27.01-	122.4	3.243	13.62
Peoria, IL	28,351	88.93	752	26.54-	122.1	3.279	16.16
Rockford, IL	24,799	99.96	540	21.95-	113.2	2.454	14.98
Springfield, IL							

See notes at end of table.

Table 3. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Michigan	982,444	96.86	32,967	33.61+	97.2	3.253+	17.56+
Ann Arbor, MI	17,760	95.12	475	26.88	97.9	2.644	14.31
Battle Creek, MI	16,831	99.89	570	33.89	105.7	3.448	16.71
Benton Harbor, MI	21,618	99.88	776	35.87+	83.8	2.988	16.45
Detroit, MI	448,826	96.43	15,803	35.42+	93.0	3.269+	19.13+
Flint, MI	43,084	91.01	1,559	36.45+	93.2	3.370	17.68+
Grand Rapids, MI	64,091	95.42	1,282	20.02-	130.4+	2.573	12.66-
Jackson, MI	17,046	99.82	596	35.01	99.1	3.385	16.86
Kalamazoo, MI	21,512	99.85	523	24.43-	101.5	2.624	15.50
Lansing, MI	32,460	90.23	1,073	33.23	109.8	3.568	14.20
Muskegon, MI	18,957	98.06	449	23.72-	119.1	3.024	18.95+
Saginaw, MI	42,162	96.18	1,603	38.10+	80.1-	3.055	17.69+
Wisconsin	611,044	99.60	16,895	27.52-	105.0+	2.863	15.67+
Appleton, WI	34,483	99.96	789	22.78-	115.0	2.504	14.38
Eau Claire, WI	16,955	99.94	530	31.07	84.9	2.690	15.71
Green Bay, WI	19,185	99.97	449	23.41-	113.3	2.645	14.51
Janesville, WI	16,529	99.85	490	29.57	123.8	3.551	18.16+
Kenosha, WI	14,291	99.91	419	29.29	102.9	2.933	18.02+
LaCrosse, WI	11,858	99.91	297	25.10-	116.6	3.041	14.55
Madison, WI	30,776	99.74	681	22.12-	128.7	2.843	14.87
Milwaukee, WI	166,813	99.21	4,850	29.13	99.1	2.791	16.75+
Racine, WI	20,503	99.90	567	27.66	99.9	2.721	16.76
Sheboygan, WI	14,461	99.98	322	22.20-	126.1	2.850	15.12
Wausau, WI	12,945	99.95	298	22.90-	104.8	2.440	14.99
West North Central	2,156,545	93.50	63,946	29.53-	108.1+	3.206+	13.38-
Minnesota	397,258	77.30	10,974	27.55-	118.5+	3.299+	12.45-
Duluth, MN-WI	29,977	76.74	829	27.81	139.6+	3.876	12.80-
Minneapolis, MN-WI	141,769	64.45	3,460	24.66-	115.8+	2.864	12.16-
Rochester, MN	9,393	99.67	227	24.20-	94.9	2.364	12.61
St. Cloud, MN	12,248	70.92	375	30.63	127.6	3.917	12.69
Iowa	404,057	99.37	11,419	28.14-	110.5+	3.129	12.56-
Cedar Rapids, IA	19,323	99.94	600	31.06	95.9	2.958	12.43-
Davenport, IA-IL	44,646	99.94	1,164	26.10-	109.3	2.857	14.53
Des Moines, IA	40,067	94.50	967	24.28-	118.5	2.921	8.23-
Dubuque, IA	11,460	99.95	301	26.39	118.9	2.943	13.70
Iowa City, IA	6,240	99.90	125	19.99-	174.3	3.289	13.37
Sioux City, IA-NE	15,951	99.96	441	27.62	129.3	3.617	15.04
Waterloo, IA	19,521	99.96	579	29.61	94.9	3.077	14.56

See notes at end of table.

Table 3. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Missouri	655,875	98.17	20,479	31.16	103.4	3,219+	15.00+
Columbia, MO	8,560	99.98	179	21.50-	95.4	2,070	9.99-
Joplin, MO	19,275	99.95	646	33.54	90.1	3,052	14.68
Kansas City, MO-KS	154,919	95.72	4,523	29.29	86.7-	2,532-	13.04-
St. Joseph, MO	13,630	99.97	388	28.52	129.4	3,432	16.38
St. Louis, MO-IL	283,167	97.43	8,584	30.41	100.2	3,058	17.28+
Springfield, MO	27,676	99.94	893	32.26	106.4	3,495	12.21-
North Dakota	85,433	98.28	2,813	32.44	89.1	2,937	12.00-
Bismarck, ND	8,160	95.13	249	30.33	94.7	3,006	12.89
Fargo, ND-MN	14,138	96.57	355	24.98-	102.0	2,616	11.68-
Grand Forks, ND	5,687	99.95	182	31.77	89.3	3,021	11.60
South Dakota	96,216	99.59	2,974	30.58	113.5	3,441	13.70
Rapid City, SD	7,152	99.89	246	34.23	125.3	4,469	12.26
Sioux Falls, SD	13,275	99.93	316	23.82-	126.9	3,016	14.18
Nebraska	209,910	98.52	5,372	25.43-	122.6+	3,174	13.01-
Lincoln, NE	20,994	98.50	383	18.26-	132.8	2,495	9.72-
Omaha, NE-IA	57,609	95.39	1,511	26.34-	119.8	3,178	14.56
Kansas	307,796	95.82	9,915	32.09+	99.1	3,180	13.14-
Lawrence, KS	4,965	87.78	121	24.33	129.0	3,109	8.69-
Topeka, KS	18,983	97.26	458	24.10-	76.1	1,821-	12.08-
Wichita, KS	45,844	88.57	1,318	28.86	102.1	2,919	12.40-
South	8,980,101	97.94	295,316	32.88+	96.9-	3,192+	13.11-
South Atlantic	4,668,855	96.31	150,915	32.37+	93.7-	3,039	13.43-
Delaware	70,251	99.94	2,316	33.07	94.0	3,145	12.53-
Wilmington, DE-NJ-MD	58,114	99.65	1,967	33.99+	101.6	3,500	12.61-
Maryland	436,606	99.49	15,334	35.27+	85.7-	3,013	11.46-
Baltimore, MD	244,878	99.90	8,992	36.91+	86.2-	3,188	11.07-
Cumberland, MD-WV	17,051	99.95	818	48.17+	81.6	3,932	16.89
Hagerstown, MD	14,522	99.95	463	31.99	119.4	3,831	14.93
District of Col.	66,196	99.75	1,294	19.72-	66.6-	1,300-	8.40-
Washington, DC-MD-VA	261,121	99.05	6,726	25.95-	82.1-	2,108-	10.00-

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	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	16,527	29.32-	97.7	2,857	13.00-
Charlottesville, VA	12,020	99.92	352	29.26	102.9	3,071	12.14
Danville, VA	15,532	99.99	406	26.32	129.0	3,429	14.71
Lynchburg, VA	18,110	99.99	425	23.58-	105.3	2,435	13.55
Norfolk, VA	102,601	99.96	2,779	27.33-	107.1	2,918	14.61
Richmond, VA	85,698	99.98	2,585	30.43	80.1-	2,392-	12.24-
Roanoke, VA	30,622	99.98	750	24.63-	112.5	2,842	12.71-
West Virginia	244,259	98.98	9,835	40.29+	93.6	3,759+	14.94
Charleston, WV	34,215	99.96	1,254	36.78+	85.2	3,050	13.71
Huntington, WV-KY-OH	40,891	99.95	1,454	35.62+	126.5+	4,365+	15.27
Parkersburg, WV-OH	19,888	99.94	664	33.45	116.8	3,731	13.82
Wheeling, WV-OH	22,016	82.51	1,000	45.92+	112.2	4,955+	18.50+
North Carolina	689,138	99.93	20,184	29.49-	109.2+	3,224+	14.52
Asheville, NC	24,469	99.92	466	19.09-	111.5	2,148-	13.17
Burlington, NC	14,505	99.99	349	24.25-	112.2	2,593	16.62
Charlotte, NC	109,337	99.79	2,995	27.63-	121.2+	3,410	15.12
Fayetteville, NC	13,388	99.98	320	24.19-	117.7	2,820	16.78
Greensboro, NC	99,387	99.97	2,851	28.89	107.4	3,048	15.21
Hickory, NC	23,392	99.97	647	27.88	106.4	3,055	15.92
Jacksonville, NC	5,134	99.86	146	28.71	51.2-	1,490-	11.96
Raleigh-Durham, NC	56,484	99.86	1,368	24.45-	105.7	2,656	11.86-
Wilmington, NC	12,634	99.97	368	29.50	74.3	2,190	12.10-
South Carolina	329,020	99.44	9,527	29.19-	111.3+	3,215	14.54
Anderson, SC	16,583	99.70	537	32.38	108.0	3,529	13.37
Charleston, SC	34,246	98.90	773	22.77-	114.0	2,567	15.96
Columbia, SC	35,361	99.98	795	22.71-	102.6	2,270-	14.68
Florence, SC	11,195	99.96	419	38.05+	146.8+	5,432+	16.61
Greenville, SC	65,893	98.01	1,836	28.12-	115.8	3,193	14.27
Georgia	561,716	99.71	19,533	35.03+	96.1	3,330+	13.58-
Albany, GA	9,292	99.92	231	25.12	99.5	2,375	11.85
Athens, GA	13,510	99.96	436	32.52	110.7	3,550	13.04
Atlanta, GA	189,539	99.27	6,117	32.60+	90.5	2,912	12.47-
Augusta, GA-SC	32,938	99.93	894	27.37	113.8	3,156	13.52
Columbus, GA-AL	22,847	99.96	578	25.54-	114.0	2,909	16.01
Macon, GA	25,929	99.97	831	32.48	102.4	3,208	13.88
Savannah, GA	25,338	99.94	581	23.08-	89.5	2,134-	14.47

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	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Florida	1,705,534	90.97	56,365	32.85+	86.3-	2.871-	13.44-
Bradenton, FL	42,906	99.68	1,267	29.22	93.4	2.740	11.59-
Daytona Beach, FL	62,616	92.90	1,793	28.44	97.5	2.747	13.18-
Fort Lauderdale, FL	181,839	81.09	7,375	40.42+	76.1-	3.153	14.14
Fort Myers, FL	61,428	99.65	1,796	28.87	99.8	2.859	12.92-
Fort Pierce, FL	41,198	99.28	1,402	33.69	83.8	2.762	13.46
FT. Walton Beach, FL	10,169	99.88	489	47.96+	53.7-	2.560	13.43
Gainesville, FL	16,758	99.58	473	28.11	88.7	2.595	13.14
Jacksonville, FL	80,895	98.22	2,546	31.61	83.2-	2.607	15.98+
Lakeland, FL	55,495	99.56	1,583	28.31	117.8	3.265	13.77
Melbourne, FL	46,501	99.72	1,752	37.43+	92.6	3.581	12.80-
Miami-Hialeah, FL	168,502	79.57	6,678	39.52+	80.5-	3.400+	14.37
Naples, FL	23,433	99.75	490	20.57-	87.1	1.760-	9.94-
Ocala, FL	31,367	99.50	1,036	32.72	90.7	2.963	15.61
Orlando, FL	90,604	98.55	2,698	29.76	91.0	2.671	14.10
Panama City, FL	11,817	99.70	353	29.84	100.8	3.027	11.80-
Pensacola, FL	29,972	99.89	909	30.45	104.8	3.070	15.46
Sarasota, FL	77,895	99.81	2,290	28.99	82.1-	2.369-	10.74-
Tallahassee, FL	17,414	97.85	414	23.81-	87.3	2.094-	8.27-
Tampa, FL	323,951	87.05	9,248	28.43-	91.3	2.588-	13.13-
West Palm Beach, FL	139,729	85.22	4,835	34.36+	77.7-	2.704	12.81-
East South Central	1,726,272	99.80	61,787	35.80+	97.1	3.476+	13.43-
Kentucky	422,657	99.70	15,061	35.62+	101.5	3.622+	14.73
Lexington, KY	31,008	98.87	789	25.60-	98.9	2.653	13.70
Louisville, KY-IN	107,485	99.20	3,237	30.27	96.1	2.866	13.43-
Dwensboro, KY	10,319	99.96	329	32.10	60.6-	1.971	10.42-
Tennessee	550,327	99.65	19,830	36.07+	98.4	3.546+	14.04-
Chattanooga, TN-GA	50,061	99.97	1,587	31.86	105.9	3.226	13.79
Clarksville, TN-KY	12,541	99.91	325	25.89	108.5	2.841	14.38
Jackson, TN	10,064	99.95	257	25.49	63.4	1.647-	10.17-
Johnson City, TN-VA	55,068	99.97	1,771	32.23	113.3	3.632	13.80
Knoxville, TN	70,970	99.96	2,423	34.28+	109.6	3.727+	12.57-
Memphis, TN-AR-MS	88,836	98.06	2,582	29.17	91.0	2.638	13.45-
Nashville, TN	92,994	99.96	2,910	31.39	89.2	2.807	12.09-

See notes at end of table.

Table 3. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Alabama	463,131	99.97	16,913	36.59+	89.3-	3.275+	12.51-
Anniston, AL	13,124	99.97	585	44.88+	65.8-	2.932	11.30-
Birmingham, AL	108,546	99.98	3,671	33.96+	95.4	3.222	11.49-
Dothan, AL	12,690	99.94	595	47.00+	93.0	4.253	14.83
Florence, AL	16,687	99.97	752	45.13+	87.6	3.968	14.10
Gadsden, AL	14,295	99.97	680	47.89+	76.2	3.659	15.72
Huntsville, AL	17,137	99.96	447	26.20	106.7	2.859	11.83-
Mobile, AL	50,513	99.96	1,341	26.58-	108.3	2.865	12.79-
Montgomery, AL	29,832	99.97	864	29.13	100.3	2.918	11.43-
Tuscaloosa, AL	13,604	99.99	395	29.15	72.5	2.054	11.11-
Mississippi	290,157	99.98	9,983	34.32+	100.8	3.448+	11.86-
Biloxi-Gulfport, MS	18,079	99.97	737	40.69+	94.0	3.886	13.78
Jackson, MS	35,305	99.98	810	22.99-	109.5	2.514	10.25-
Pascagoula, MS	8,556	99.88	319	37.30	97.4	3.465	14.05
West South Central	2,584,974	99.74	82,614	31.86+	102.7+	3.273+	12.32-
Arkansas	321,739	99.96	12,117	37.43+	95.9	3.570+	12.31-
Fayetteville, AR	11,803	99.95	454	38.30+	102.5	3.928	10.56-
Fort Smith, AR-OK	21,413	99.98	822	38.30+	109.0	4.307+	12.97
Little Rock, AR	50,966	99.99	1,614	31.76	97.1	3.059	11.75-
Pine Bluff, AR	11,012	99.98	268	24.22-	143.6	3.323	17.06
Louisiana	415,968	99.98	14,048	33.77+	101.6	3.345+	13.14-
Alexandria, LA	13,819	99.96	390	28.23	102.4	2.852	15.51
Baton Rouge, LA	39,583	99.97	1,184	30.02	114.3	3.390	12.74-
Houma-Thibodaux, LA	13,501	100.00	554	41.17+	120.4	4.746+	11.76-
Lafayette, LA	14,620	99.99	408	27.97	82.4	2.297	10.05-
Lake Charles, LA	16,436	99.98	519	31.56	105.0	3.016	14.35
Monroe, LA	14,648	99.99	458	31.33	130.6	3.813	9.69-
New Orleans, LA	118,708	99.98	3,874	32.77+	97.4	3.139	13.45-
Shreveport, LA	36,822	99.98	994	27.04-	116.5	3.006	13.97
Oklahoma	378,716	99.02	12,987	34.17+	103.1	3.557+	14.63
Enid, OK	8,215	99.94	194	23.52-	140.9	3.281	16.13
Lawton, OK	8,221	99.99	263	32.02	95.5	3.012	14.18
Oklahoma City, OK	88,646	97.45	2,689	30.39	100.6	3.078	13.01-
Tulsa, OK	71,032	98.13	2,071	29.23	103.8	3.092	15.43

See notes at end of table.

Table 3. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Texas	1,468,551	99.81	43,462	29.50-	104.8+	3.111	11.47-
Abilene, TX	13,100	99.96	417	31.84	117.8	3.749	11.64-
Amarillo, TX	19,063	99.97	483	25.40-	92.8	2.505	10.52-
Austin, TX	47,578	99.95	1,027	21.55-	104.6	2.247-	9.79-
Beaumont, TX	1,442,323	99.98	1,443	33.96	87.8	3.048	11.42-
Brazoria, TX	12,486	99.78	433	34.65	91.3	3.026	10.00-
Brownsville, TX	20,169	99.86	437	21.32-	105.6	2.209	9.44-
Bryan, TX	6,955	99.96	187	26.83	118.3	3.119	8.98-
Corpus Christi, TX	28,417	95.56	795	27.89	76.5	2.144-	10.51-
Dallas, TX	172,118	99.95	4,787	27.97-	110.7+	3.141	11.93-
El Paso, TX	37,292	99.94	681	18.14-	97.8	1.779-	10.67-
Fort Worth, TX	97,947	99.96	2,694	27.58-	116.3+	3.198	13.46-
Galveston, TX	19,376	99.94	625	32.18	99.2	3.239	16.13
Houston, TX	187,992	99.85	5,156	27.49-	99.6	2.737	11.67-
Killeen-Temple, TX	17,182	99.97	490	28.41	119.0	3.365	10.15-
Laredo, TX	8,421	99.99	216	25.39	92.3	2.287	10.42-
Longview, TX	20,547	99.98	620	30.17	112.1	3.455	11.28-
Lubbock, TX	18,957	99.97	728	38.25+	77.1	2.924	11.83-
McAllen, TX	27,402	99.82	813	29.07	107.9	3.045	8.76-
Midland, TX	7,362	99.96	275	37.29	88.4	3.390	14.22
Odessa, TX	9,207	99.99	312	33.88	82.7	2.638	8.99-
San Angelo, TX	11,213	99.99	395	35.09	68.5	2.378	8.79-
San Antonio, TX	107,989	99.28	2,290	21.18-	107.4	2.294-	10.69-
Sherman-Denison, TX	14,532	99.99	570	39.12+	106.1	4.142	12.91
Texas-Kana, TX-AR	15,315	99.99	530	34.57	92.6	3.063	11.55-
Tyler, TX	18,223	99.98	570	31.22	98.6	3.154	10.71-
Tyler, TX	6,871	99.97	222	32.16	78.0	2.502	14.40
Victoria, TX	23,624	99.99	624	26.41-	119.0	3.127	13.80
Waco, TX	14,462	99.97	442	30.58	105.7	3.212	11.39-
Wichita Falls, TX							
West	4,539,951	93.08	119,400	26.19-	94.0-	2.468-	12.88-
Mountain	1,200,638	94.36	30,419	25.18-	98.9	2.489-	11.41-
Montana	97,248	99.90	2,589	27.38-	102.8	2.796	11.09-
Billings, MT	12,097	99.88	237	19.52-	109.8	2.181	9.29-
Great Falls, MT	9,076	99.91	237	25.97	127.0	3.315	12.12
Idaho	109,822	99.77	3,066	27.59-	91.2	2.513-	11.67-
Boise City, ID	18,471	99.90	386	20.88-	86.5	1.757-	13.61
Wyoming	42,408	99.91	1,217	28.49	109.5	3.188	11.91-
Casper, WY	5,379	99.91	131	24.41	85.9	2.289	10.47-
Cheyenne, WY	6,886	99.96	157	22.77-	109.7	2.344	11.12-

See notes at end of table.

Table 3. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As Percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Colorado	266,663	94.73	6,303	23.59-	97.8	2,331-	12.31-
Boulder-Longmont, CO	15,143	97.96	419	27.73	68.8	1,824-	9.73-
Colorado Springs, CO	24,899	95.03	508	20.45-	117.6	2,409	13.04
Denver, CO	119,624	94.10	2,588	21.71-	97.0	2,150-	12.14-
Fort Collins, CO	15,089	99.71	375	24.74-	107.8	2,884	12.49
Greeley, CO	11,610	99.62	344	29.43	103.8	3,041	12.37
Pueblo, CO	15,372	94.43	366	23.73-	95.9	2,267	12.33-
New Mexico	125,371	92.49	3,069	24.29-	91.5	2,223-	8.47-
Albuquerque, NM	33,783	81.01	706	21.01-	88.5	1,884-	8.87-
Las Cruces, NM	9,375	99.94	231	24.33-	118.8	2,816	7.98-
Santa Fe, NM	8,454	93.66	160	18.80-	72.7	1,305-	6.04-
Arizona	348,748	91.33	9,119	26.01-	97.8	2,517-	12.17-
Phoenix, AZ	187,381	86.74	4,944	26.36-	97.1	2,533-	12.86-
Tucson, AZ	70,550	96.06	1,781	25.15-	102.7	2,581	11.19-
Utah	128,579	99.92	2,940	22.70-	105.4	2,345-	10.77-
Provo-Orem, UT	16,076	99.93	446	27.52	109.3	2,936	10.59-
Salt Lake City, UT	77,243	99.94	1,620	20.90-	107.8	2,208-	10.98-
Nevada	81,799	86.15	2,016	24.48-	110.4	2,783	10.50-
Las Vegas, NV	45,252	82.98	1,186	26.09-	106.8	2,885	10.16-
Reno, NV	19,133	89.17	402	20.86-	106.6	2,263	10.91-
Pacific	3,339,313	92.62	88,981	26.55-	92.3-	2,461-	13.37-
Washington	461,706	92.41	11,878	25.60-	100.1	2,567-	11.81-
Bellingham, WA	13,629	99.51	392	28.55	82.7	2,508	12.30
Bremerton, WA	15,439	96.59	386	24.94-	91.1	2,344	10.98-
Olympia, WA	14,254	90.98	467	32.61	94.8	3,008	12.17-
Richland, WA	12,559	99.85	365	28.87	79.3	2,329	10.19-
Seattle, WA	159,828	86.57	3,831	23.96-	99.4	2,393-	10.32-
Spokane, WA	41,237	94.51	902	21.83-	102.6	2,222	12.72-
Tacoma, WA	50,245	97.24	1,160	22.99-	118.6	2,712	13.26-
Vancouver, WA	17,048	80.32	486	28.55	94.2	2,668	13.39
Yakima, WA	22,738	99.74	608	26.51-	129.0	3,410	13.69
Oregon	303,778	86.84	7,120	23.30-	100.5	2,301-	13.25-
Eugene, OR	28,947	88.67	634	21.79-	113.6	2,563	12.32-
Medford, OR	20,326	99.78	475	23.08-	92.3	2,071-	12.48-
Portland, OR	99,155	72.79	2,083	21.10-	111.0	2,295-	13.83
Salem, OR	33,249	90.39	766	22.88-	115.8	2,529	13.35

See notes at end of table.

Table 3. Ischemic heart disease: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 non-HMD enrollees	Per 1,000 non-HMD enrollees	
California	2,477,248	93.71	68,155	27.45-	2,488-	2,488-	13.84-
Anaheim-Santa Ana, CA	167,171	89.39	4,614	27.72-	2,381-	2,381-	13.97
Bakersfield, CA	44,969	99.76	1,475	32.52	2,560	2,560	15.40
Chico, CA	27,102	99.09	881	32.18	3,075	3,075	10.59-
Fresno, CA	58,425	99.90	1,611	27.38-	102.2	2,850	14.58
Los Angeles, CA	677,939	91.40	19,282	28.49-	87.0-	2,531-	15.07+
Merced, CA	13,462	99.86	447	32.93	99.5	3,330	13.65
Modesto, CA	33,619	98.80	1,109	32.88	67.2-	2,093-	11.72-
Oakland, CA	188,258	99.08	4,957	26.34-	86.5-	2,272-	12.66-
Oxnard-Ventura, CA	49,488	93.74	1,201	24.23-	104.5	2,631	11.87-
Redding, CA	17,796	99.73	526	29.30	104.8	2,910	12.75
Riverside, CA	203,246	90.92	6,627	32.45+	89.9	2,903	15.59+
Sacramento, CA	120,273	91.81	3,016	25.00-	92.4	2,268-	13.60-
Salinas, CA	29,131	99.86	736	25.08-	90.1	2,294-	13.27
San Diego, CA	205,402	91.35	5,123	24.87-	86.5-	2,189-	13.08-
San Francisco, CA	163,753	89.02	3,408	20.75-	109.6	2,305-	12.88-
San Jose, CA	105,258	99.50	2,586	24.60-	105.3	2,527-	11.90-
Santa Barbara, CA	38,021	99.77	828	21.64-	111.1	2,438	10.97-
Santa Cruz, CA	24,640	99.49	637	25.67-	87.7	2,251	11.46-
Santa Rosa, CA	44,775	99.49	1,043	23.19-	76.4-	1,800-	11.16-
Stockton, CA	40,855	91.54	1,261	30.51	91.1	2,707	13.72
Vallejo, CA	35,778	98.59	1,073	29.84	95.1	2,810	13.67
Visalia, CA	28,811	99.91	956	32.81	87.1	2,911	15.61
Yuba City, CA	11,835	99.35	422	35.28	70.4	2,401	15.24
Alaska	16,348	99.78	346	20.89-	116.4	2,471	11.54-
Anchorage, AK	5,625	99.75	123	21.88-	146.5	3,417	13.21
Hawaii	80,233	83.64	1,482	18.03-	91.7	1,631-	9.02-
Honolulu, HI	57,680	83.31	1,090	18.53-	101.1	1,851-	8.94-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Acute myocardial infarction

Heart disease is a leading cause of morbidity and mortality among the Medicare population aged 65 years or over. In this population, acute myocardial infarction (AMI) accounted for 16 percent of all hospitalizations for heart disease and for 34 percent of all deaths from heart disease during 1986. There were 280,579 discharges for AMI among aged Medicare enrollees in 1986, for a rate of 10.50 discharges per 1,000 (Table 1). The 30-day post-admission mortality rate was 242.0 deaths per 1,000 discharges, or about 24 percent. The death rate for AMI among the general aged population was 6.95 deaths per 1,000 persons.

Important coding issues should be borne in mind when examining AMI statistics overall and by race. First, in coding Medicare hospital stays, a stay for a cardiac condition within 8 weeks of the occurrence of an AMI is liable to be coded with a principal diagnosis of AMI, even if that stay is not for a new AMI. For example, an admission for a cardiac catheterization within 8 weeks of an AMI will likely have AMI as the principal diagnosis. Thus, rates of hospitalization for AMI do not necessarily reflect the incidence of hospitalizations for new AMIs. Second, there is evidence that a greater proportion of coronary heart disease deaths occur out of hospital for black persons than white persons (Sempos et al., 1988). The coding

of cause of death (AMI versus other causes) may be less accurate for deaths that occur outside a hospital than for those that occur in a hospital. Thus, rates of hospitalization for AMI and differences by race in AMI death rates must be interpreted with caution.

Age and sex patterns

Discharge rates for AMI increased with age, rising 51 percent from the age group 65–74 years to the group 85 years or over. Men were hospitalized for AMI at a considerably higher rate than women in all three age categories. Death rates among the aged population were also much higher for men than women, but the difference by sex decreased with age. Death rates for men 65–74 years of age were more than 100 percent higher than the rates for women this age (5.90 deaths per 1,000 persons versus 2.84); death rates for men aged 85 years or over were 34 percent higher than those for women (20.52 deaths per 1,000 persons versus 15.31). Rates of 30-day post-admission mortality per 1,000 discharges were higher for women than for men in the age group 65–74 years but higher for men in the two older age groups.

Patterns by race

Discharge rates for AMI were higher for white persons than for black persons in all three age groups. Population death rates were higher for white than black men in all three age groups. For women, the death

rates were higher for white than black persons in the two older age groups but lower for white women in the age group 65–74 years. The 30-day post-admission mortality rates were lower for black persons than for white persons in every age-sex group.

Variations by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region, division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan statistical area (MSA) level are shown in Table 3. Figures 1–3 were derived from the data in these tables.

Discharge rates

In 1986, discharge rates for AMI tended to be lowest in the West (Figure 1). The highest rates were generally found in the Northeast. The District of Columbia and Hawaii had the lowest discharge rates (6.38 and 6.43 discharges per 1,000 enrollees) and Rhode Island had the highest (14.22 discharges per 1,000). The District of Columbia's low rate may result in part from incomplete reporting of discharges and in part from its large black population. The New England and Middle Atlantic Divisions had the highest median discharge rates, and the Mountain and Pacific had the lowest rates (Figure 2).

NOTE: Acute myocardial infarction is ICD-9-CM code 410.

Population death rates

In 1986, the States with the lowest death rates from AMI tended to be in the West and the States with the highest rates were generally in the East (Figure 3). The death rate from AMI across States ranged from a low of 3.77 per 1,000 enrollees in the District of Columbia to a high of 9.04 per 1,000 enrollees in Kentucky (Table 2).

Correlations between rates

There was a positive correlation of 0.51 between the discharge rates per 1,000 enrollees and the death rates per 1,000 persons among MSAs and rural areas, indicating a direct relationship between mortality from AMI and hospitalizations for AMI in an area. There was no significant correlation between the discharge rate per 1,000 enrollees and the 30-day post-admission death rate per 1,000 discharges for AMI.

Urban-rural patterns

In the Nation as a whole, the discharge rate for AMI was higher for rural than urban Medicare enrollees (11.75 versus 10.03 discharges per 1,000 enrollees). It was also higher for rural residents in all four census regions. The 30-day post-admission death rate was similar for urban and rural residents in the Nation as a whole (239.3 and 248.1 deaths per 1,000 discharges) and in each census region. The AMI death rate for the aged population was higher for rural than urban residents both nationally (7.74 versus 6.69 deaths per 1,000 persons) and in all four census regions.

Reference

Sempos, C., Cooper, R., Kovar, M.G., and McMillen, M.: Divergence of recent trends in coronary mortality by the four major race-sex groups in the United States. *American Journal of Public Health* 78(11):1422-1427, Nov. 1988.

Table 1. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

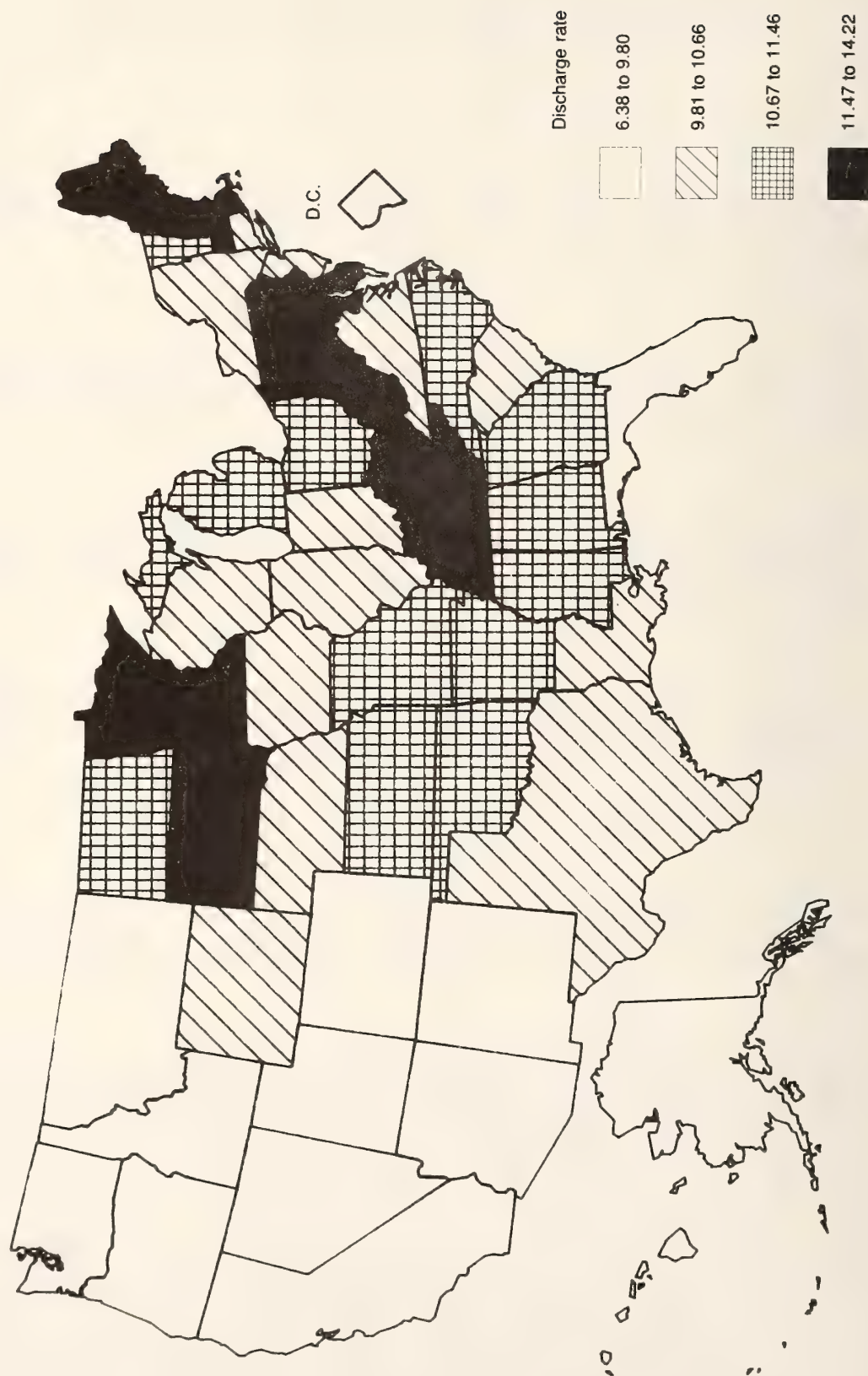
Age, sex, and race	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
All persons (1)	26,698,924	96.70	280,579	10.50	242.0	2.54	6.95
65-74 years	16,162,594	96.33	142,412	8.81	185.5	1.63	4.19
75-84 years	8,020,447	96.96	104,652	13.04	279.6	3.65	9.21
85 years or over	2,515,883	98.32	33,515	13.32	364.6	4.86	16.78
Men	10,650,991	96.01	143,903	13.51	227.5	3.07	8.70
65-74 years	7,056,445	95.90	84,144	11.92	175.3	2.09	5.90
75-84 years	2,912,366	96.02	48,489	16.64	283.7	4.72	12.28
85 years or over	682,180	97.22	11,270	16.52	375.6	6.21	20.52
Women	16,047,933	97.16	136,676	8.51	257.3	2.19	5.75
65-74 years	9,106,149	96.66	58,268	6.39	200.2	1.28	2.84
75-84 years	5,108,081	97.51	56,163	10.99	276.1	3.04	7.38
85 years or over	1,833,703	98.74	22,245	12.13	359.1	4.36	15.31
White	23,574,066	96.62	255,381	10.83	244.9	2.65	7.12
65-74 years	14,207,064	96.23	128,231	9.02	186.9	1.69	4.26
75-84 years	7,134,499	96.88	96,072	13.46	282.5	3.80	9.41
85 years or over	2,232,503	98.26	31,078	13.92	367.6	5.12	17.28
Men	9,391,016	95.94	131,880	14.04	229.8	3.23	8.98
65-74 years	6,216,472	95.83	76,664	12.33	176.5	2.18	6.07
75-84 years	2,573,989	95.94	44,752	17.38	286.4	4.98	12.67
85 years or over	600,555	97.12	10,464	17.42	379.0	6.60	21.42
Women	14,183,050	97.07	123,501	8.70	260.9	2.27	5.86
65-74 years	7,990,592	96.55	51,567	6.45	202.5	1.31	2.82
75-84 years	4,560,510	97.42	51,320	11.25	279.1	3.14	7.47
85 years or over	1,631,948	98.69	20,614	12.63	361.8	4.57	15.68
Black	1,991,943	97.86	15,014	7.53	206.5	1.56	5.86
65-74 years	1,213,014	97.54	8,195	6.75	166.6	1.13	4.02
75-84 years	583,429	98.11	5,139	8.80	237.6	2.09	7.88
85 years or over	195,500	99.11	1,680	8.59	306.5	2.63	12.25
Men	792,788	97.49	6,673	8.41	197.7	1.66	6.68
65-74 years	519,305	97.28	4,027	7.75	156.7	1.22	4.92
75-84 years	215,401	97.67	2,095	9.72	244.4	2.38	9.21
85 years or over	58,082	98.74	551	9.48	319.4	3.03	13.43
Women	1,199,155	98.10	8,341	6.95	213.6	1.49	5.31
65-74 years	693,709	97.74	4,168	6.00	176.1	1.06	3.35
75-84 years	368,028	98.37	3,044	8.27	232.9	1.93	7.07
85 years or over	137,418	99.26	1,129	8.21	300.3	2.47	11.71

(1)Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

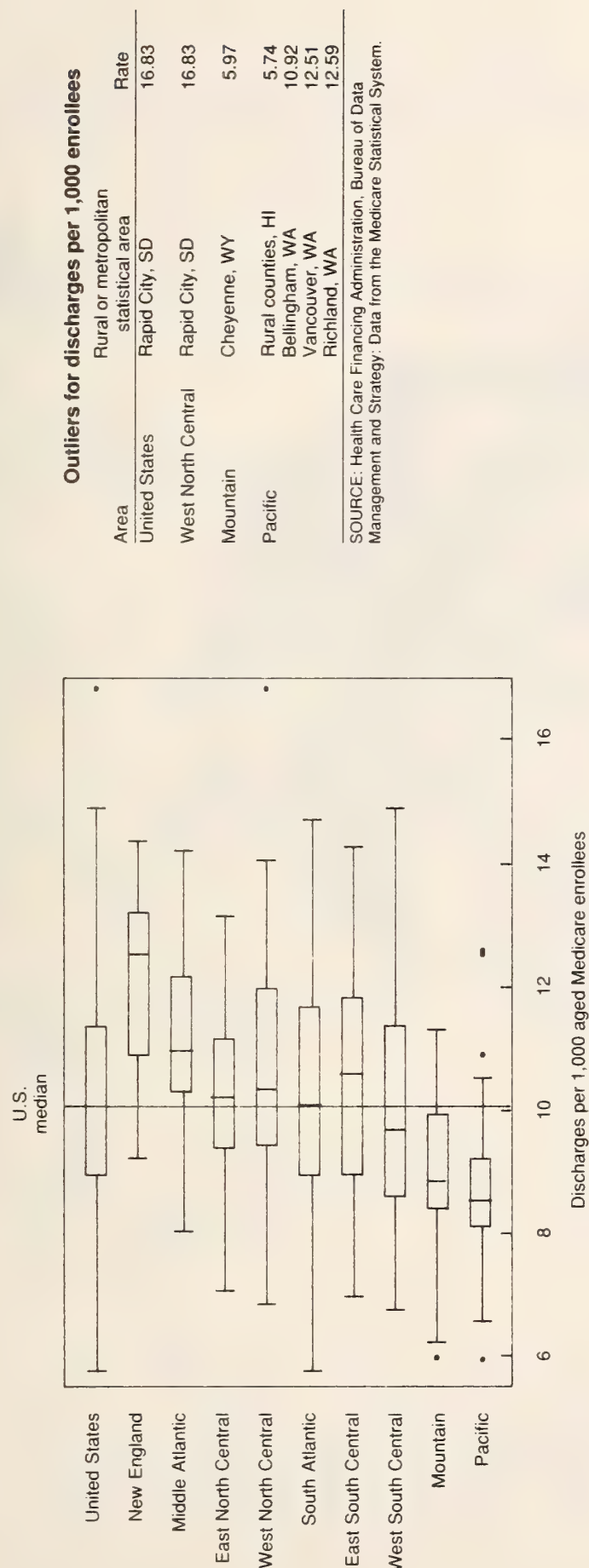
SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Figure 1. Acute myocardial infarction: Short-stay hospital discharges per 1,000 aged Medicare enrollees, by State: 1986



NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included.
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Figure 2. Acute myocardial infarction: Short-stay hospital discharges per 1,000 aged Medicare enrollees for rural and metropolitan statistical areas, by division: United States, 1986

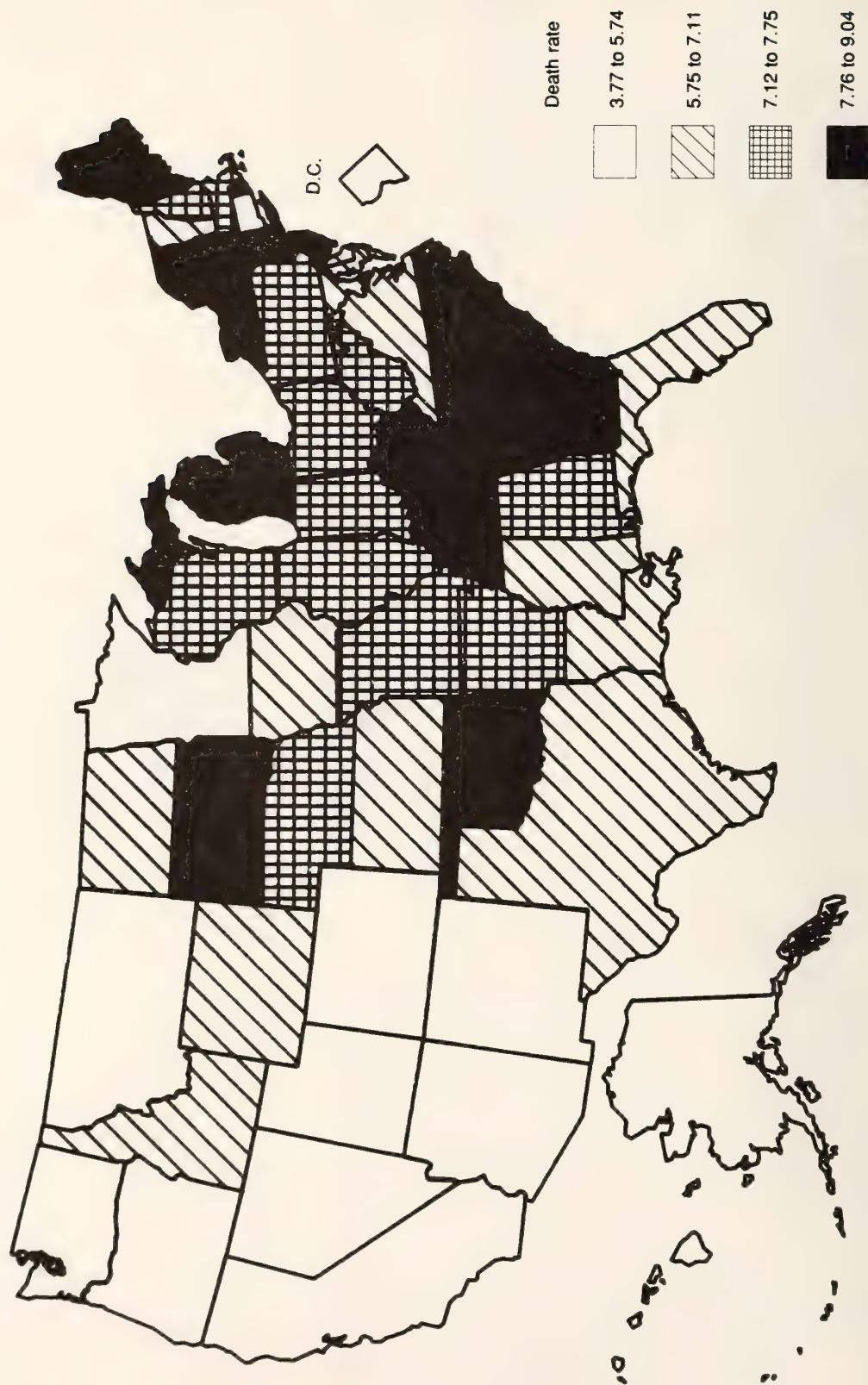


Outliers for discharges per 1,000 enrollees

Area	Rural or metropolitan statistical area	Rate
United States	Rapid City, SD	16.83
West North Central	Rapid City, SD	16.83
Mountain	Cheyenne, WY	5.97
Pacific	Rural counties, HI	5.74
	Bellingham, WA	10.92
	Vancouver, WA	12.51
	Richland, WA	12.59

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System.

Figure 3. Acute myocardial infarction: Deaths per 1,000 aged population, by State: 1986



SOURCES: Population death rates were derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,598,924	96.70	280,579	10.51	242.0	2.543	6.98
Metropolitan	19,363,284	95.80	193,471	10.03-	239.3	2.405-	6.69-
Rural	7,335,640	99.16	87,108	11.75+	248.1+	2.899+	7.74+
Northeast	6,276,897	98.04	69,940	11.19+	230.2-	2.578	7.75+
Metropolitan	5,564,648	97.84	61,299	11.07+	229.7-	2.551	7.74+
Rural	712,249	99.69	8,641	12.07+	233.6	2.797+	7.82+
New England	1,569,313	96.20	19,308	12.32+	227.5-	2.817+	7.08
Metropolitan	1,342,886	95.66	16,551	12.37+	227.9-	2.836+	7.06
Rural	226,427	99.53	2,757	12.06+	225.0	2.709	7.17
Maine	153,209	99.88	2,055	13.30+	232.4	3.083+	7.91+
Metropolitan	82,345	99.89	1,070	12.97+	230.9	2.973	7.29
Rural	70,864	99.87	985	13.69+	234.0	3.210+	8.62+
New Hampshire	114,752	98.98	1,488	12.96+	225.6	2.935	7.42
Metropolitan	74,135	98.55	970	13.13+	232.7	3.051	7.82+
Rural	40,617	99.77	518	12.66+	212.5	2.724	6.69
Vermont	62,781	99.82	702	11.08	231.6	2.549	6.81
Metropolitan	10,422	99.91	126	12.09	245.0	2.873	6.31
Rural	52,359	99.80	576	10.88	228.8	2.485	6.90
Massachusetts	709,478	93.75	9,211	13.02+	227.7-	2.970+	7.37+
Metropolitan	659,025	93.40	8,685	13.22+	228.7-	3.034+	7.52+
Rural	50,453	98.58	526	10.37	209.2	2.133	5.28-
Rhode Island	132,332	97.59	1,869	14.22+	222.0	3.195+	8.27+
Metropolitan	132,332	97.59	1,869	14.22+	222.0	3.195+	8.27+
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Connecticut	396,761	97.56	3,983	10.08	227.2	2.317-	5.74-
Metropolitan	384,627	97.50	3,831	10.01	226.3	2.294-	5.64-
Rural	12,134	99.66	152	12.53	249.2	3.044	9.11
Middle Atlantic	4,707,584	98.68	50,632	10.81+	231.2-	2.499	7.99+
Metropolitan	4,221,762	98.55	44,748	10.66	230.4-	2.460-	7.97+
Rural	485,822	99.76	5,884	12.08+	237.6	2.837+	8.12+
New York	2,143,249	98.98	22,198	10.34	230.3-	2.387-	8.33+
Metropolitan	1,922,371	98.89	19,684	10.23	228.7-	2.352-	8.39+
Rural	220,878	99.75	2,514	11.28	243.8	2.686	7.80+

See notes at end of table.

Table 2. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
New Jersey	916,155	97.84	9,275	10.22	247.0	2,537	7.76+
Metropolitan	916,155	97.84	9,275	10.22	247.0	2,537	7.76+
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Pennsylvania	1,648,180	98.75	19,159	11.74+	224.6-	2,628	7.65+
Metropolitan	1,383,236	98.56	15,789	11.55+	222.8-	2,563	7.51+
Rural	264,944	99.78	3,370	12.76+	233.1	2,966+	8.39+
North Central	6,901,975	96.39	74,398	10.74+	249.4+	2,678+	7.28+
Metropolitan	4,398,761	95.22	44,224	10.11-	249.8+	2,528	6.93
Rural	2,503,214	98.51	30,174	11.83+	248.8+	2,931+	7.90+
East North Central	4,745,430	97.76	49,752	10.51	251.4+	2,643+	7.55+
Metropolitan	3,453,558	97.13	34,735	10.13-	252.0+	2,555	7.24+
Rural	1,291,872	99.47	15,017	11.51+	250.0	2,869+	8.38+
Ohio	1,263,869	99.46	13,825	11.02+	258.7+	2,821+	7.22+
Metropolitan	987,528	99.60	10,367	10.61	260.1+	2,737+	6.88
Rural	276,341	98.95	3,458	12.46+	254.2	3,116+	8.38+
Indiana	623,062	97.86	6,342	10.22	262.0+	2,672	7.47+
Metropolitan	399,457	97.01	3,791	9.56-	261.0+	2,488	6.86
Rural	223,605	99.41	2,551	11.37	263.6	2,994+	8.53+
Illinois	1,265,011	95.90	12,546	9.94-	249.8	2,497	7.52+
Metropolitan	952,934	94.73	9,025	9.54-	246.5	2,367-	7.30+
Rural	312,077	99.68	3,521	11.14	258.4	2,876+	8.20+
Michigan	982,444	96.86	10,616	10.87	248.5	2,720+	8.09+
Metropolitan	744,347	96.06	7,846	10.65	249.2	2,667	7.96+
Rural	238,097	99.44	2,770	11.56+	246.5	2,881+	8.50+
Wisconsin	611,044	99.60	6,423	10.39	233.5	2,433	7.54+
Metropolitan	369,292	99.43	3,706	9.99	239.9	2,411	6.99
Rural	241,752	99.86	2,717	10.98	224.7	2,465	8.35+
West North Central	2,156,545	93.50	24,646	11.23+	245.5	2,752+	6.74-
Metropolitan	945,203	88.82	9,489	10.01-	242.1	2,429	5.90-
Rural	1,211,342	97.51	15,157	12.16+	247.6	2,994+	7.43+
Minnesota	397,258	77.30	4,836	11.94+	243.3	2,912+	5.66-
Metropolitan	187,915	67.07	1,958	10.38	245.3	2,549	4.69-
Rural	209,343	89.55	2,878	13.30+	241.9	3,228+	6.78

See notes at end of table.

Table 2. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Iowa	404,057	99.37	4,320	10.50	251.2	2,625	6.51-
	136,818	98.24	1,258	9.16-	1,258	2,339	5.80-
Metropolitan	267,239	99.96	3,062	11.18	249.6	2,765	6.85
Rural							
Missouri	655,875	98.17	7,396	11.17+	245.4	2,742+	7.37+
	383,255	96.99	3,977	10.37	233.8	2,437	6.85
Metropolitan	272,620	99.88	3,419	12.28+	258.9	3,160+	8.08+
Rural							
North Dakota	85,433	98.28	1,010	11.46	220.7	2,555	6.62
	22,964	98.14	240	10.27	246.9	2,600	5.89
Metropolitan	62,469	98.34	770	11.89	212.5	2,539	6.89
Rural							
South Dakota	96,216	99.59	1,274	12.87+	239.6	3,002+	7.99+
	20,427	99.92	245	11.91	248.9	2,986	7.04
Metropolitan	75,789	99.51	1,029	13.12+	237.3	3,006	8.23+
Rural							
Nebraska	209,910	98.52	2,291	10.66	257.6	2,733	7.13
	70,076	95.86	724	10.32	220.4	2,245	5.26-
Metropolitan	139,834	99.91	1,567	10.82	274.2+	2,964+	8.05+
Rural							
Kansas	307,796	95.82	3,519	11.24	243.1	2,719	6.90
	123,748	93.24	1,087	8.77-	263.3	2,296	6.01-
Metropolitan	184,048	97.63	2,432	12.85+	234.3	2,989+	7.49+
Rural							
South	8,980,101	97.94	95,983	10.71+	249.0+	2,560+	7.03
	5,757,016	96.87	56,364	9.85-	244.7	2,408-	6.39-
Metropolitan	3,223,085	99.91	39,619	12.24+	255.3+	3,104+	8.19+
Rural							
South Atlantic	4,668,855	96.31	48,749	10.51	242.2	2,541	6.78-
	3,313,125	94.94	32,935	10.00-	238.0	2,382-	6.32-
Metropolitan	1,355,730	99.84	15,814	11.75+	251.0	2,932+	8.00+
Rural							
Delaware	70,251	99.94	843	12.15+	220.1	2,694	6.47
	44,355	99.95	513	11.76	218.2	2,546	5.59-
Metropolitan	25,896	99.94	330	12.83	222.8	2,949	7.92
Rural							
Maryland	436,606	99.49	4,986	11.56+	214.0-	2,476	6.41-
	395,091	99.44	4,531	11.63+	214.7-	2,501	6.32-
Metropolitan	41,515	99.95	455	10.92	207.7	2,247	7.35
Rural							
District of Col.	66,196	99.75	422	6.38-	157.1-	1,032-	3.77-
	66,196	99.75	422	6.38-	157.1-	1,032-	3.77-
Metropolitan	0	0.00	0	0.00	0.0	0.000	0.00
Rural							

See notes at end of table.

Table 2. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	5,536	9.90-	243.2	2,377-	6.46-
	355,193	99.87	3,170	9.09-	245.2	2,202-	5.97-
	210,942	99.97	2,366	11.24	240.6	2,663	7.29
West Virginia	244,259	98.98	3,072	12.60+	256.5	3,215+	7.40
	90,704	97.39	1,142	12.71+	261.0	3,274+	6.77
	153,555	99.95	1,930	12.54+	253.8	3,181+	7.77+
North Carolina	689,138	99.93	7,528	11.12+	255.0	2,806+	8.02+
	346,905	99.89	3,505	10.30	251.8	2,571	7.57+
	342,233	99.96	4,023	11.95+	257.9	3,044+	8.47+
South Carolina	329,020	99.44	3,394	10.56	260.4	2,725	8.28+
	186,873	99.05	1,784	9.80	267.1	2,587	8.28+
	142,147	99.95	1,610	11.56	253.0	2,904	8.27+
Georgia	561,716	99.71	6,127	11.10+	255.4	2,824+	8.19+
	313,319	99.54	3,029	9.88	251.6	2,485	7.39+
	248,397	99.93	3,098	12.61+	259.2	3,245+	9.17+
Florida	1,705,534	90.97	16,841	9.80-	237.0	2,341-	5.94-
	1,514,489	90.04	14,839	9.72-	235.6	2,312-	5.86-
	191,045	99.17	2,002	10.40	247.2	2,589	6.62
East South Central	1,726,272	99.80	19,839	11.50+	254.0+	2,905+	7.98+
	873,594	99.64	8,690	10.03-	249.6	2,493	7.05
	852,678	99.97	11,149	12.98+	257.3+	3,315+	8.91+
Kentucky	422,657	99.70	5,008	11.83+	263.5+	3,102+	9.04+
	183,264	99.37	1,773	9.76	261.9	2,533	8.07+
	239,393	99.96	3,235	13.39+	264.4+	3,528+	9.76+
Tennessee	550,327	99.65	6,416	11.70+	249.2	2,886+	7.82+
	342,007	99.46	3,437	10.12	238.0	2,389	6.52-
	208,320	99.96	2,979	14.26+	262.2	3,691+	9.92+
Alabama	463,131	99.97	5,096	11.06	246.6	2,742+	7.75+
	281,960	99.97	2,845	10.19	254.5	2,604	7.06
	181,171	99.97	2,251	12.39+	236.8	2,952+	8.79+
Mississippi	290,157	99.98	3,319	11.33+	259.9	2,910+	7.11
	66,363	99.96	635	9.61	255.5	2,453	6.93
	223,794	99.98	2,684	11.83+	260.9	3,041+	7.16

See notes at end of table.

Table 2. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
West South Central							
Metropolitan	2,584,974	99.74	27,395	10.55	257.6+	2,710+	6.88
Rural	1,570,297	99.59	14,739	9.42-	256.8+	2,415-	6.21-
	1,014,677	99.97	12,656	12.26+	258.6+	3,147+	7.86+
Arkansas							
Metropolitan	321,739	99.96	3,718	11.44+	263.2+	3,002+	7.14
Rural	100,966	99.98	1,017	10.07	281.3+	2,789	6.12-
	220,773	99.95	2,701	12.05+	256.5	3,097+	7.60+
Louisiana							
Metropolitan	415,968	99.98	4,424	10.61	258.2	2,695	6.99
Rural	268,137	99.98	2,628	9.86	261.0	2,543	6.24-
	147,831	99.99	1,796	11.95+	254.1	2,959+	8.26+
Oklahoma							
Metropolitan	378,716	99.02	4,352	11.38+	260.8+	2,971+	7.84+
Rural	180,038	98.00	1,799	9.99	265.3	2,673	7.34
	198,678	99.96	2,553	12.60+	257.7	3,233+	8.29+
Texas							
Metropolitan	1,468,551	99.81	14,901	10.12-	255.1+	2,580	6.53-
Rural	1,021,156	99.73	9,295	9.14-	251.3	2,298-	6.01-
	447,395	99.97	5,606	12.30+	261.5+	3,195+	7.66+
West							
Metropolitan	4,539,951	93.08	40,258	8.83-	232.1-	2,053-	5.43-
Rural	3,642,859	91.96	31,584	8.66-	233.5-	2,030-	5.40-
	897,092	97.88	8,674	9.54-	227.0-	2,147-	5.54-
Mountain							
Metropolitan	1,200,638	94.36	10,899	9.05-	229.7-	2,068-	5.28-
Rural	720,893	92.10	6,115	8.52-	231.0	1,961-	4.96-
	479,745	97.98	4,784	9.84-	228.1	2,226-	5.81-
Montana							
Metropolitan	97,248	99.90	952	9.67	244.2	2,349	5.66-
Rural	21,173	99.90	172	8.11-	285.1	2,292	4.52-
	76,075	99.91	780	10.10	235.3	2,365	5.97-
Idaho							
Metropolitan	109,822	99.77	1,076	9.67	216.1	2,098-	6.24-
Rural	18,471	99.90	125	6.79-	222.3	1,484-	7.35
	91,351	99.74	951	10.24	215.3	2,220	6.02-
Wyoming							
Metropolitan	42,408	99.91	439	10.26	267.8	2,815	6.46
Rural	12,265	99.93	94	7.71	246.5	1,991	4.46-
	30,143	99.89	345	11.29	273.6	3,139	7.26
Colorado							
Metropolitan	266,663	94.73	2,374	8.87-	218.0-	1,923-	5.69-
Rural	201,737	95.23	1,705	8.47-	220.0	1,860-	5.32-
	64,926	93.22	669	10.08	212.8	2,111	6.79

See notes at end of table.

Table 2. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Mexico	125,371	92.49	1,187	9.40-	205.7-	1.890-	4.13-
Metropolitan	51,612	85.86	442	8.62-	197.2	1.682-	3.74-
Rural	73,759	97.76	745	9.93	210.8	2.029-	4.43-
Arizona	348,748	91.33	3,032	8.72-	242.4	2.085-	5.02-
Metropolitan	257,931	89.11	2,241	8.73-	243.7	2.107-	4.96-
Rural	90,817	98.31	791	8.69-	238.5	2.018-	5.21-
Utah	128,579	99.92	1,110	8.59-	233.2	1.990-	5.21-
Metropolitan	93,319	99.94	785	8.41-	231.8	1.937-	4.95-
Rural	35,260	99.88	325	9.06	236.7	2.126	5.88-
Nevada	81,799	86.15	729	9.04-	227.4	2.099-	4.89-
Metropolitan	64,385	84.73	551	8.71-	222.2	1.971-	4.47-
Rural	17,414	91.83	178	10.26	243.3	2.564	6.54
Pacific	3,339,313	92.62	29,359	8.75-	233.0-	2.048-	5.48-
Metropolitan	2,921,966	91.93	25,469	8.69-	234.0-	2.047-	5.51-
Rural	417,347	97.77	3,890	9.19-	225.8	2.056-	5.23-
Washington	461,706	92.41	4,331	9.32-	230.8	2.141-	5.20-
Metropolitan	346,977	90.86	3,143	9.03-	231.8	2.090-	5.01-
Rural	114,729	97.42	1,188	10.20	228.1	2.293	5.81-
Oregon	303,778	86.84	2,594	8.46-	234.1	1.942-	4.82-
Metropolitan	181,677	80.38	1,498	8.19-	243.3	1.948-	4.88-
Rural	122,101	98.65	1,096	8.87-	221.2	1.933-	4.72-
California	2,477,248	93.71	21,786	8.77-	234.0-	2.069-	5.66-
Metropolitan	2,330,007	93.36	20,391	8.73-	233.9-	2.062-	5.67-
Rural	147,241	99.57	1,395	9.37-	234.7	2.197-	5.45-
Alaska	16,348	99.78	119	7.32-	258.9	1.962	4.57-
Metropolitan	5,625	99.75	44	8.13	300.5	2.635	4.85
Rural	10,723	99.80	75	6.92-	234.2	1.640	4.43-
Hawaii	80,233	83.64	529	6.43-	198.8	1.286-	4.30-
Metropolitan	57,680	83.31	393	6.71-	217.1	1.467-	4.33-
Rural	22,553	84.47	136	5.74-	147.3-	0.850-	4.22-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (P<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
United States	26,698,924	96.70	280,579	10.51	242.0	2.543	6.98
Northeast	6,276,897	98.04	69,940	11.19+	230.2-	2.578	7.75+
New England	1,569,313	96.20	19,308	12.32+	227.5-	2.817+	7.08
Maine	153,209	99.88	2,055	13.30+	232.4	3.083+	7.91+
Bangor, ME	16,035	99.87	221	13.69	243.1	3.202	7.16
Lewiston-Auburn, ME	13,464	99.93	150	11.14	229.6	2.500	7.74
Portland, ME	52,846	99.89	699	13.21+	227.4	3.023	7.20
New Hampshire	114,752	98.98	1,488	12.96+	225.6	2.935	7.42
Manchester, NH	44,397	97.91	580	13.10+	244.2	3.241+	7.68
Portsmouth, NH	29,738	99.52	390	13.16+	214.7	2.761	8.01
Vermont	62,781	99.82	702	11.08	231.6	2.549	6.81
Burlington, VT	10,422	99.91	126	12.09	245.0	2.873	6.31
Massachusetts	709,478	93.75	9,211	13.02+	227.7-	2.970+	7.37+
Boston, MA	429,794	95.67	5,735	13.36+	225.9-	3.046+	7.54+
New Bedford, MA	65,540	98.67	931	14.36+	239.7	3.454+	10.19+
Pittsfield, MA	20,281	91.00	225	11.13	227.8	2.544	5.63-
Springfield, MA	72,225	92.57	859	11.98	246.2	2.875	6.50
Worcester, MA	71,185	79.42	935	13.18+	220.8	2.875	6.29-
Rhode Island	132,332	97.59	1,869	14.22+	222.0	3.195+	8.27+
Providence, RI	132,332	97.59	1,869	14.22+	222.0	3.195+	8.27+
Connecticut	396,761	97.56	3,983	10.08	227.2	2.317-	5.74-
Bridgeport, CT	96,911	96.63	992	10.29	217.0	2.250	5.80-
Hartford, CT	157,139	99.16	1,594	10.17	226.7	2.353	5.44-
New Haven, CT	102,964	95.31	992	9.70	225.5	2.216	5.67-
New London, CT	27,613	99.70	253	9.23	265.6	2.402	6.09

See notes at end of table.

Table 3. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 non-HMD discharges	Per 1,000 non-HMD enrollees	
Middle Atlantic	4,707,584	98.68	50,632	10.81+	231.2-	2.499	7.99+
New York	2,143,249	98.98	22,198	10.34	230.3-	2.387-	8.33+
Albany, NY	115,122	98.78	1,221	10.64	220.7	2.331	6.81
Binghamton, NY	35,576	99.96	365	10.29	204.4	2.055	8.13
Buffalo, NY	134,451	98.66	1,439	10.87	253.1	2.772	9.87+
Elmira, NY	13,699	99.94	147	10.77	223.7	2.417	6.00
Glens Falls, NY	15,222	99.63	183	11.96	226.5	2.796	7.71
Nassau-Suffolk, NY	297,143	99.88	3,033	10.28	246.0	2.556	6.73
New York, NY	997,473	99.58	10,006	9.96-	217.9-	2.186-	9.03+
Niagara Falls, NY	30,841	99.69	332	10.93	248.8	2.653	9.51+
Orange County, NY	30,488	99.89	342	11.21	235.2	2.615	8.51+
Poughkeepsie, NY	27,864	98.47	290	10.35	225.1	2.291	9.55+
Rochester, NY	102,542	88.80	1,164	11.36	223.3	2.566	7.52
Syracuse, NY	75,217	99.92	600	8.03-	264.2	2.126	6.06-
Utica-Rome, NY	46,733	99.90	562	12.13	265.6	3.246+	9.30+
New Jersey	916,155	97.84	9,275	10.22	247.0	2.537	7.76+
Atlantic City, NJ	46,406	97.93	568	12.21	203.2	2.423	7.01
Bergen-Passaic, NJ	171,246	99.45	1,658	9.75	248.6	2.446	7.97+
Jersey City, NJ	64,069	99.25	655	10.40	265.0	2.790	7.16
Middiesex, NJ	91,009	94.70	1,010	11.35	220.1	2.563	7.18
Monmouth-Ocean, NJ	154,643	99.57	1,461	9.47-	250.2	2.350	7.68+
Newark, NJ	211,511	99.40	1,939	9.23-	246.2	2.312	8.03+
Trenton, NJ	38,499	97.14	474	12.51	237.7	2.983	6.38
Vineland, NJ	16,382	96.17	200	12.35	362.4+	4.572+	10.24+
Pennsylvania	1,648,180	98.75	19,159	11.74+	224.6-	2.628	7.65+
Allentown, PA-NJ	94,668	99.09	990	10.59	220.9	2.345	7.08
Altoona, PA	20,692	99.99	256	12.43	244.9	2.901	9.92+
Beaver County, PA	27,562	99.95	286	10.59	218.3	2.292	7.28
Erie, PA	35,244	99.92	278	8.01-	276.1	2.175	8.99+
Harrisburg, PA	72,929	99.95	790	10.94	251.8	2.654	6.40
Johnstown, PA	40,260	99.97	524	13.21+	282.7	3.633+	7.85
Lancaster, PA	48,045	99.93	423	8.73-	237.5	2.039	7.04
Philadelphia PA-NJ	569,054	95.81	6,622	11.77+	211.6-	2.482	7.41+
Pittsburgh, PA	323,494	99.06	3,874	12.18+	221.0-	2.712	7.62+
Reading, PA	48,476	99.88	482	9.92	221.8	2.163	6.31
Scranton, PA	122,888	99.95	1,328	11.03	255.5	2.830	8.04+
Sharon, PA	19,009	99.97	230	12.17	218.1	2.678	9.27+
State College, PA	10,032	99.97	142	14.18	235.8	3.225	10.38+
Williamsport, PA	16,877	99.98	230	13.63	200.2	2.654	6.57
York, PA	48,541	99.96	524	10.79	230.4	2.482	8.62+

See notes at end of table.

Table 3. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
North Central	6,901,975	96.39	74,398	10.74+	249.4+	2.678+	7.28+
East North Central	4,745,430	97.76	49,752	10.51	251.4+	2.643+	7.55+
Ohio	1,263,869	99.46	13,825	11.02+	258.7+	2.821+	7.22+
Akron, OH	75,615	99.90	712	9.51	268.6	2.519	6.97
Canton, OH	51,895	99.97	525	10.20	303.4+	3.043	6.81
Cincinnati, OH-KY-IN	159,407	99.96	1,490	9.40-	288.5+	2.732	5.39-
Cleveland, OH	242,585	99.71	2,435	10.19	246.5	2.515	6.29-
Columbus, OH	121,377	99.73	1,329	11.06	254.7	2.768	7.05
Dayton, OH	103,547	99.95	1,063	10.36	265.6	2.721	7.49
Hamilton, OH	26,009	99.95	308	11.91	305.9	3.617+	7.10
Lima, OH	19,579	99.97	213	10.89	218.3	2.350	5.46-
Lorain-Elyria, OH	27,340	99.85	310	11.50	210.7	2.333	7.90
Mansfield, OH	15,230	99.96	170	11.26	204.5	2.225	7.38
Steubenville, OH-WV	21,934	98.57	256	11.89	269.7	3.226	6.74
Toledo, OH	70,660	99.95	890	12.67+	255.4	3.205+	8.40+
Youngstown, OH	69,319	99.95	756	11.11	249.4	2.755	9.45+
Indiana	623,062	97.86	6,342	10.22	262.0+	2.672	7.47+
Anderson, IN	17,198	99.83	188	11.07	247.1	2.668	5.93
Bloomington, IN	7,913	99.87	71	8.98	263.0	2.269	9.57
Elkhart-Goshen, IN	15,647	99.92	168	10.74	288.1	2.985	6.72
Evansville, IN-KY	34,434	95.72	367	10.68	320.4+	3.407+	8.22+
Fort Wayne, IN	37,565	97.77	273	7.28-	276.7	1.907-	6.97
Gary-Hammond, IN	61,160	97.01	544	9.06	275.2	2.458	8.02+
Indianapolis, IN	118,407	93.81	1,041	8.86-	236.9	2.137-	5.98-
Kokomo, IN	10,842	99.94	120	11.19	314.2	3.285	7.45
Lafayette, IN	11,228	99.92	107	9.52	182.0	1.763	5.78
Muncie, IN	13,759	99.91	141	10.38	264.9	2.667	6.06
South Bend, IN	33,170	99.93	296	8.94	244.0	2.176	6.65
Terre Haute, IN	19,585	99.89	255	13.13	274.6	3.679+	7.56
Illinois	1,265,011	95.90	12,546	9.94-	249.8	2.497	7.52+
Aurora-Egin, IL	30,946	98.68	262	8.48-	268.2	2.247	6.53
Bloomington, IL	12,672	99.94	144	11.31	270.6	3.086	6.73
Champaign, IL	13,391	99.91	120	8.99	331.3	2.848	6.48
Chicago, IL	608,135	92.94	5,699	9.47-	239.4	2.291-	7.27+
Decatur, IL	15,992	99.97	173	10.82	242.7	2.667	5.84
Joliet, IL	28,047	97.18	255	9.17	272.6	2.580	8.97+
Kankakee, IL	12,020	99.94	120	9.98	228.4	2.256	5.99
Lake County, IL	36,099	95.52	358	10.02	188.3-	1.910-	7.66
Peoria, IL	43,549	99.93	379	8.68-	303.4+	2.603	7.56
Rockford, IL	28,351	88.93	263	9.27	265.0	2.538	5.80-
Springfield, IL	24,799	99.96	174	7.06-	294.4	2.050	7.10

See notes at end of table.

Table 3. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Michigan	982,444	96.86	10,616	10.87	248.5	2,720+	8.09+
Ann Arbor, MI	17,760	95.12	164	9.27	243.5	2,361	5.37-
Battle Creek, MI	16,831	99.89	166	9.87	284.4	2,794	8.81+
Benton Harbor, MI	21,618	99.88	243	11.26	223.5	2,523	7.20
Detroit, MI	448,826	96.43	4,876	11.01	245.8	2,730	8.48+
Flint, MI	43,084	91.01	455	10.69	257.6	2,687	9.08+
Grand Rapids, MI	64,091	95.42	523	8.14-	268.3	2,156	6.24
Jackson, MI	17,046	99.82	215	12.67	249.7	3,032	8.70
Kalamazoo, MI	21,512	99.85	199	9.31	229.0	2,343	5.60-
Lansing, MI	32,460	90.23	380	11.76	271.8	3,197	6.96
Muskegon, MI	18,957	98.06	187	9.95	267.3	2,759	9.26+
Saginaw, MI	42,162	96.18	438	10.48	240.9	2,501	6.31
Wisconsin	611,044	99.60	6,423	10.39	233.5	2,433	7.54+
Appleton, WI	34,483	99.96	354	10.16	225.2	2,247	6.97
Eau Claire, WI	16,955	99.94	196	11.38	194.9	2,230	7.47
Green Bay, WI	19,185	99.97	193	10.05	209.9	2,127	8.50
Janesville, WI	16,529	99.85	196	11.74	238.7	2,720	9.27+
Kenosha, WI	14,291	99.91	141	9.86	271.5	2,656	6.54
LaCrosse, WI	11,858	99.91	129	10.81	220.0	2,461	4.38-
Madison, WI	30,776	99.74	289	9.33	268.8	2,521	6.43
Milwaukee, WI	166,813	99.21	1,575	9.43-	246.1	2,356	7.10
Racine, WI	20,503	99.90	192	9.35	244.1	2,284	5.80
Sheboygan, WI	14,461	99.98	138	9.46	254.4	2,441	4.88-
Wausau, WI	12,945	99.95	123	9.41	209.2	1,983	7.75
West North Central	2,156,545	93.50	24,646	11.23+	245.5	2,752+	6.74-
Minnesota	397,258	77.30	4,836	11.94+	243.3	2,912+	5.66-
Duluth, MN-WI	29,977	76.74	420	14.06+	254.4	3,575+	5.20-
Minneapolis, MN-WI	141,769	64.45	1,429	10.04	246.3	2,461	4.68-
Rochester, MN	9,393	99.67	97	10.20	165.2	1,743	6.54
St. Cloud, MN	12,248	70.92	132	10.57	289.8	3,214	4.87-
Iowa	404,057	99.37	4,320	10.50	251.2	2,625	6.51-
Cedar Rapids, IA	19,323	99.94	183	9.42	204.8	1,885	6.01
Davenport, IA-IL	44,646	99.94	433	9.70	233.6	2,210	6.99
Des Moines, IA	40,067	94.50	329	8.23-	261.2	2,175	4.29-
Dubuque, IA	11,460	99.95	107	9.34	285.4	2,508	5.36
Iowa City, IA	6,240	99.90	47	7.44	332.9	2,345	4.81
Sioux City, IA-NE	15,951	99.96	159	9.83	288.1	2,827	7.02
Waterloo, IA	19,521	99.96	207	10.53	223.8	2,470	7.45

See notes at end of table.

Table 3. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Missouri	655,875	98.17	7,396	11.17+	245.4	2,742+	7.37+
Columbia, MO	8,560	99.98	70	8.13	236.8	1,839	3.97-
Joplin, MO	19,275	99.95	201	10.43	232.2	2,484	7.75
Kansas City, MO-KS	154,919	95.72	1,465	9.45-	230.6	2,166-	5.73-
St. Joseph, MO	13,630	99.97	175	12.76	269.7	3,213	7.18
St. Louis, MO-IL	283,167	97.43	2,956	10.45	248.3	2,615	7.70+
Springfield, MO	27,676	99.94	370	13.31+	220.3	3,030	5.69-
North Dakota	85,433	98.28	1,010	11.46	220.7	2,555	6.62
Bismarck, ND	8,160	95.13	99	11.98	221.8	2,764	5.61
Fargo, ND-MN	14,138	96.57	143	9.89	253.6	2,475	5.41-
Grand Forks, ND	5,687	99.95	58	9.97	215.9	2,344	5.74
South Dakota	96,216	99.59	1,274	12.87+	239.6	3,002+	7.99+
Rapid City, SD	7,152	99.89	121	16.83+	221.6	3,774	7.74
Sioux Falls, SD	13,275	99.93	124	9.26	275.0	2,571	6.68
Nebraska	209,910	98.52	2,291	10.66	257.6	2,733	7.13
Lincoln, NE	20,994	98.50	186	8.77	243.5	2,121	3.73-
Omaha, NE-IA	57,609	95.39	640	11.11	223.6	2,471	6.35
Kansas	307,796	95.82	3,519	11.24	243.1	2,719	6.90
Lawrence, KS	4,965	87.78	49	9.72	296.5	2,909	5.61
Topeka, KS	18,983	97.26	132	6.85-	225.7	1,614-	5.72
Wichita, KS	45,844	88.57	415	9.05	257.0	2,290	6.41
South	8,980,101	97.94	95,983	10.71+	249.0+	2,660+	7.03
South Atlantic	4,668,855	96.31	48,749	10.51	242.2	2,541	6.78-
Delaware	70,251	99.94	843	12.15+	220.1	2,694	6.47
Wilmington, DE-NJ-MD	58,114	99.65	724	12.64+	241.3	3,062	6.78
Maryland	436,606	99.49	4,986	11.56+	214.0-	2,476	6.41-
Baltimore, MD	244,878	99.90	2,995	12.40+	208.1-	2,592	6.89
Cumberland, MD-WV	17,051	99.95	237	14.04+	238.0	3,280	8.42
Hagerstown, MD	14,522	99.95	211	14.64+	253.1	3,765	8.49
District of Col.	66,196	99.75	422	6.38-	157.1-	1,032-	3.77-
Washington, DC-MD-VA	261,121	99.05	2,052	7.97-	209.2-	1,674-	4.36-

See notes at end of table.

Table 3. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	5,536	9.90-	243.2	2,377-	6.46-
Charlottesville, VA	12,020	99.92	127	10.55	253.6	2,739	7.66
Danville, VA	15,532	99.99	189	12.36	256.7	3,171	7.86
Lynchburg, VA	18,110	99.99	150	8.34	254.2	2,049	8.04
Norfolk, VA	102,601	99.96	940	9.39	262.1	2,413	6.41
Richmond, VA	85,698	99.98	748	8.88-	218.7	1,890-	5.68-
Roanoke, VA	30,622	99.98	285	9.33	244.7	2,291	5.72-
West Virginia	244,259	98.98	3,072	12.60+	256.5	3,215+	7.40
Charleston, WV	34,215	99.96	389	11.50	206.8	2,335	5.52-
Huntington, WV-KY-OH	40,891	99.95	535	13.11+	306.0+	3,878+	8.54+
Parkersburg, WV-OH	19,888	99.94	263	13.21	266.2	3,381	7.07
Wheeling, WV-OH	22,016	82.51	308	14.20+	307.3	4,313+	8.99+
North Carolina	689,138	99.93	7,528	11.12+	255.0	2,806+	8.02+
Asheville, NC	24,469	99.92	190	7.76-	255.6	2,025	6.15
Burlington, NC	14,505	99.99	164	11.57	209.7	2,312	8.34
Charlotte, NC	109,337	99.79	1,273	11.90+	252.0	2,969	8.35+
Fayetteville, NC	13,388	99.98	110	8.52	296.0	2,508	6.85
Greensboro, NC	99,387	99.97	958	9.80	277.6	2,669	8.08+
Hickory, NC	23,392	99.97	235	10.29	262.0	2,660	9.63+
Jacksonville, NC	5,134	99.86	40	8.09	132.6	1,070-	5.03
Raleigh-Durham, NC	56,484	99.86	560	10.10	230.7	2,349	6.14-
Wilmington, NC	12,634	99.97	103	8.42	212.1	1,860	4.63-
South Carolina	329,020	99.44	3,394	10.56	260.4	2,725	8.28+
Anderson, SC	16,583	99.70	172	10.61	286.8	3,033	8.11
Charleston, SC	34,246	98.90	257	7.71-	274.4	2,141	8.32+
Columbia, SC	35,361	99.98	267	7.76-	248.1	1,857-	8.29+
Florence, SC	11,195	99.96	146	13.55	340.4	4,590+	9.36+
Greenville, SC	65,893	98.01	662	10.29	257.6	2,565	8.25+
Georgia	561,716	99.71	6,127	11.10+	255.4	2,824+	8.19+
Albany, GA	9,292	99.92	86	9.49	232.7	2,154	5.26
Athens, GA	13,510	99.96	156	11.71	290.0	3,403	7.87
Atlanta, GA	189,539	99.27	1,873	10.09	242.6	2,451	7.07
Augusta, GA-SC	32,938	99.93	324	10.08	240.1	2,493	7.10
Columbus, GA-AL	22,847	99.96	197	8.86	256.9	2,222	9.08+
Macon, GA	25,929	99.97	244	9.69	293.2	2,809	8.41+
Savannah, GA	25,338	99.94	205	8.24-	206.1	1,768-	8.40

See notes at end of table.

Table 3. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Florida	1,705,534	90.97	16,841	9.80-	237.0	2.341-	5.94-
Bradenton, FL	42,906	99.68	393	8.98	255.9	2.289	4.98-
Daytona Beach, FL	62,616	92.90	575	9.09	248.8	2.306	5.77-
Fort Lauderdale, FL	181,839	81.09	2,095	11.36	217.8-	2.497	6.41-
Fort Myers, FL	61,428	99.65	582	9.44	251.5	2.350	4.36-
Fort Pierce, FL	41,198	99.28	384	9.33	255.3	2.344	5.38-
FT. Walton Beach, FL	10,169	99.88	116	11.65	197.8	2.253	5.21
Gainesville, FL	16,758	99.58	175	10.44	205.0	2.176	6.92
Jacksonville, FL	80,895	98.22	650	8.14-	249.2	2.013-	6.17-
Lakeland, FL	55,495	99.56	590	10.60	271.1	2.833	5.82-
Melbourne, FL	46,501	99.72	487	10.57	245.8	2.664	5.97-
Miami-Hialeah, FL	168,502	79.57	2,068	11.98+	224.3	2.814	6.25-
Naples, FL	23,433	99.75	135	5.72-	259.7	1.502-	4.03-
Ocala, FL	31,367	99.50	304	9.76	247.8	2.301	5.98
Orlando, FL	90,604	98.55	820	9.11-	241.3	2.168	6.06-
Panama City, FL	11,817	99.70	100	8.59	292.1	2.502	5.11-
Pensacola, FL	29,972	99.89	281	9.55	255.3	2.378	7.24
Sarasota, FL	77,895	99.81	741	9.33	221.8	2.093-	5.07-
Tallahassee, FL	17,414	97.85	124	7.16-	223.8	1.630-	5.08-
Tampa, FL	323,951	87.05	2,782	8.50-	246.2	2.090-	5.91-
West Palm Beach, FL	139,729	85.22	1,437	10.18	214.4	2.199-	5.45-
East South Central	1,726,272	99.80	19,839	11.50+	254.0+	2.905+	7.98+
Kentucky	422,657	99.70	5,008	11.83+	263.5+	3.102+	9.04+
Lexington, KY	31,008	98.87	303	9.84	228.8	2.362	9.49+
Louisville, KY-IN	107,485	99.20	1,039	9.76	248.7	2.396	7.27
Owensboro, KY	10,319	99.96	91	8.94	134.1-	1.282-	3.18-
Tennessee	550,327	99.65	6,416	11.70+	249.2	2.886+	7.82+
Chattanooga, TN-GA	50,061	99.97	511	10.32	269.1	2.721	6.61
Clarksville, TN-KY	12,541	99.91	137	10.89	246.9	2.604	7.63
Jackson, TN	10,064	99.95	71	6.98-	213.0	1.547	4.12-
Johnson City, TN-VA	55,068	99.97	651	11.94	270.6	3.173+	7.87
Knoxville, TN	70,970	99.96	741	10.56	260.8	2.665	6.22-
Memphis, TN-AR-MS	88,836	98.06	788	8.91-	224.6	2.051-	6.42
Nashville, TN	92,994	99.96	977	10.56	215.0	2.247	7.05

See notes at end of table.

Table 3. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Alabama	463,131	99.97	5,096	11.06	246.6	2,742+	7.75+
Anniston, AL	13,124	99.97	143	11.12	233.1	2,542	6.30
Birmingham, AL	108,546	99.98	1,153	10.69	246.6	2,667	6.25-
Dothan, AL	12,690	99.94	144	11.45	306.6	3,374	8.74
Florence, AL	16,687	99.97	205	12.39	286.0	3,545	9.42+
Gadsden, AL	14,295	99.97	173	12.37	230.9	2,862	8.32
Huntsville, AL	17,137	99.96	169	10.03	250.3	2,623	7.29
Mobile, AL	50,513	99.96	432	8.63-	272.9	2,362	6.80
Montgomery, AL	29,832	99.97	264	8.93	263.8	2,342	7.18
Tuscaloosa, AL	13,604	99.99	120	8.86	185.2	1,614-	5.65
Mississippi	290,157	99.98	3,319	11.33+	259.9	2,910+	7.11
Biloxi-Gulfport, MS	18,079	99.97	211	11.78	308.9	3,780+	8.23
Jackson, MS	35,305	99.98	294	8.31-	230.4	1,898-	6.51
Pascagoula, MS	8,556	99.88	95	11.32	233.6	2,485	7.39
West South Central	2,584,974	99.74	27,395	10.55	257.6+	2,710+	6.88
Arkansas	321,739	99.96	3,718	11.44+	263.2+	3,002+	7.14
Fayetteville, AR	11,803	99.95	165	13.87	260.5	3,593	6.00
Fort Smith, AR-OK	21,413	99.98	266	12.40	291.4	3,513	7.10
Little Rock, AR	50,966	99.99	426	8.41-	277.1	2,349	5.43-
Pine Bluff, AR	11,012	99.98	111	9.92	314.1	2,969	6.43
Louisiana	415,968	99.98	4,424	10.61	258.2	2,695	6.99
Alexandria, LA	13,819	99.96	103	7.42-	300.9	2,280	8.25
Baton Rouge, LA	39,583	99.97	378	9.65	278.3	2,695	5.64-
Houma-Thibodaux, LA	13,501	100.00	142	10.72	317.5	3,356	6.86
Lafayette, LA	14,620	99.99	103	7.10-	223.8	1,602-	5.35-
Lake Charles, LA	16,436	99.98	171	10.50	247.9	2,456	6.52
Monroe, LA	14,648	99.99	162	11.01	315.0	3,274	5.05-
New Orleans, LA	118,708	99.98	1,272	10.80	236.9	2,551	6.24-
Shreveport, LA	36,822	99.98	297	8.02-	293.6	2,285	6.59
Oklahoma	378,716	99.02	4,352	11.38+	260.8+	2,971+	7.84+
Enid, OK	8,215	99.94	75	8.99	333.8	3,040	10.66+
Lawton, OK	8,221	99.99	75	9.22	299.0	2,641	7.28
Oklahoma City, OK	88,646	97.45	819	9.23-	278.8	2,574	7.04
Tulsa, OK	71,032	98.13	785	11.09	242.0	2,739	7.36

See notes at end of table.

Table 3. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Texas	1,468,551	99.81	14,901	10.12-	255.1+	2,580	6.53-
Abilene, TX	13,100	99.96	151	11.48	295.8	3,372	5.01-
Amarillo, TX	19,063	99.97	178	9.41	196.3	1,868	6.83
Austin, TX	47,578	99.95	355	7.44-	231.3	1,744-	6.20
Beaumont, TX	42,323	99.98	389	9.19	245.3	2,265	5.00-
Brazoria, TX	12,486	99.78	163	13.25	197.6	2,530	5.88
Brownsville, TX	20,169	99.86	150	7.30-	237.6	1,670-	4.71-
Bryan, TX	6,955	99.96	58	8.29	317.5	2,551	4.54-
Corpus Christi, TX	28,417	95.56	231	8.15-	207.9	1,754-	5.31-
Dallas, TX	172,118	99.95	1,659	9.75	269.0	2,622	6.35-
El Paso, TX	37,292	99.94	252	6.75-	233.4	1,590-	4.42-
Fort Worth, TX	97,947	99.96	991	10.21	260.0	2,660	6.61
Galveston, TX	19,376	99.94	212	11.02	248.1	2,820	6.55
Houston, TX	187,992	99.85	1,629	8.76-	237.8	2,101-	5.86-
Killeen-Temple, TX	17,182	99.97	198	11.46	213.7	2,437	6.43
Laredo, TX	8,421	99.99	78	9.07	235.9	2,056	6.03
Longview, TX	20,547	99.98	233	11.29	259.3	2,924	6.30
Lubbock, TX	18,957	99.97	172	9.07	238.7	2,182	5.81
McAllen, TX	27,402	99.82	197	7.03-	336.4+	2,361	4.86-
Midland, TX	7,362	99.96	73	10.01	248.0	2,549	7.95
Odessa, TX	9,207	99.99	117	12.92	210.0	2,648	4.85-
San Angelo, TX	11,213	99.99	126	11.16	172.7	1,849	4.72-
San Antonio, TX	107,989	99.28	747	6.92-	280.2	1,931-	5.83-
Sherman-Denison, TX	14,532	99.99	218	14.90+	274.5	3,868	6.68
Texarkana, TX-AR	15,315	99.99	136	8.82	275.2	2,295	7.44
Tyler, TX	18,223	99.98	219	12.03	221.8	2,770	6.03
Tyler, TX	6,871	99.97	65	9.46	160.8	1,474	6.98
Victoria, TX	23,624	99.99	219	9.23	282.6	2,625	9.34+
Waco, TX	14,462	99.97	122	8.40	289.5	2,459	6.15
Wichita Falls, TX							
West	4,539,951	93.08	40,258	8.83-	232.1-	2,053-	5.43-
Mountain	1,200,638	94.36	10,899	9.05-	229.7-	2,068-	5.28-
Montana	97,248	99.90	952	9.67	244.2	2,349	5.66-
Billings, MT	12,097	99.88	75	6.20-	289.8	1,848	3.66-
Great Falls, MT	9,076	99.91	97	10.64	281.2	2,875	5.63
Idaho	109,822	99.77	1,076	9.67	216.1	2,098-	6.24-
Boise City, ID	18,471	99.90	125	6.79-	222.3	1,484-	7.35
Wyoming	42,408	99.91	439	10.26	267.8	2,815	6.46
Casper, WY	5,379	99.91	53	9.95	187.6	2,102	4.29-
Cheyenne, WY	6,886	99.96	41	5.97-	335.8	1,906	4.60-

See notes at end of table.

Table 3. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Colorado	266,663	94.73	2,374	8.87-	218.0-	1,923-	5.69-
Boulder-Longmont, CO	15,143	97.96	133	8.75	180.7	1,496-	4.46-
Colorado Springs, CO	24,899	95.03	208	8.45	239.4	1,997	4.61-
Denver, CO	119,624	94.10	996	8.37-	208.5-	1,754-	5.31-
Fort Collins, CO	15,089	99.71	135	8.87	280.9	2,555	5.62
Greeley, CO	11,610	99.62	105	8.93	263.8	2,280	6.32
Pueblo, CO	15,372	94.43	128	8.29	217.3	1,814	6.34
New Mexico	125,371	92.49	1,187	9.40-	205.7-	1,890-	4.13-
Albuquerque, NM	33,783	81.01	283	8.49-	182.1-	1,551-	3.99-
Las Cruces, NM	9,375	99.94	92	9.73	264.4	2,497	2.81-
Santa Fe, NM	8,454	93.66	67	7.89	171.9	1,306-	3.55-
Arizona	348,748	91.33	3,032	8.72-	242.4	2,085-	5.02-
Phoenix, AZ	187,381	86.74	1,562	8.40-	254.6	2,094-	5.06-
Tucson, AZ	70,550	96.06	679	9.63	219.6	2,140	4.70-
Utah	128,579	99.92	1,110	8.59-	233.2	1,990-	5.21-
Provo-Orem, UT	16,076	99.93	150	9.28	231.7	2,127	5.12-
Salt Lake City, UT	77,243	99.94	635	8.22-	231.8	1,897-	4.92-
Nevada	81,799	86.15	729	9.04-	227.4	2,099-	4.89-
Las Vegas, NV	45,252	82.98	384	8.67-	225.7	2,033	4.68-
Reno, NV	19,133	89.17	167	8.81	213.7	1,829	3.96-
Pacific	3,339,313	92.62	29,359	8.75-	233.0-	2,048-	5.48-
Washington	461,706	92.41	4,331	9.32-	230.8	2,141-	5.20-
Bellingham, WA	13,629	99.51	151	10.92	172.2	2,005	4.51-
Bremerton, WA	15,439	96.59	125	8.09	219.4	1,890	5.90
Olympia, WA	14,254	90.98	151	10.53	247.2	2,589	6.07
Richland, WA	12,559	99.85	157	12.59	157.4-	2,004	4.01-
Seattle, WA	159,828	86.57	1,349	8.43-	235.5	1,980-	4.41-
Spokane, WA	41,237	94.51	375	9.03	221.0	1,958-	5.88-
Tacoma, WA	50,245	97.24	411	8.16-	279.8	2,232	5.44-
Vancouver, WA	17,048	80.32	212	12.51	186.6	2,314	4.53-
Yakima, WA	22,738	99.74	212	9.19	277.5	2,546	7.02
Oregon	303,778	86.84	2,594	8.46-	234.1	1,942-	4.82-
Eugene, OR	28,947	88.67	248	8.53	231.7	1,976	4.32-
Medford, OR	20,326	99.78	181	8.80	207.7	1,778-	4.00-
Portland, OR	99,155	72.79	792	7.96-	243.5	1,896-	4.95-
Salem, OR	33,249	90.39	277	8.19-	275.7	2,177	5.60-

See notes at end of table.

Table 3. Acute myocardial infarction: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
California	2,477,248	93.71	21,786	8.77-	234.0-	2,069-	5.66-
Anaheim-Santa Ana, CA	167,171	89.39	1,384	8.31-	228.1	1,938-	6.08-
Bakersfield, CA	44,969	99.76	384	8.52-	254.4	2,180	5.80-
Chico, CA	27,102	99.09	267	9.76	242.2	2,413	4.72-
Fresno, CA	58,425	99.90	513	8.68-	252.4	2,243	5.43-
Los Angeles, CA	677,939	91.40	6,267	9.24-	227.5-	2,122-	6.26-
Merced, CA	13,462	99.86	121	8.96	257.6	2,427	5.69
Modesto, CA	33,619	98.80	307	9.12	187.9	1,737-	5.67-
Oakland, CA	188,258	99.08	1,634	8.69-	222.6	1,926-	4.58-
Oxnard-Ventura, CA	49,488	93.74	413	8.35-	256.5	2,185	4.31-
Redding, CA	17,796	99.73	146	8.22	294.0	2,278	6.01
Riverside, CA	203,246	90.92	2,002	9.82	252.0	2,495	6.67
Sacramento, CA	120,273	91.81	1,026	8.56-	212.6	1,822-	5.22-
Salinas, CA	29,131	99.86	224	7.62-	227.3	1,747-	5.59-
San Diego, CA	205,402	91.35	1,591	7.73-	234.5	1,838-	5.53-
San Francisco, CA	163,753	89.02	1,343	8.10-	237.1	1,957-	4.97-
San Jose, CA	105,258	99.50	907	8.65-	245.7	2,155-	5.25-
Santa Barbara, CA	38,021	99.70	254	6.58-	303.6	2,051	4.68-
Santa Cruz, CA	24,640	99.77	190	7.55-	237.8	1,821-	5.04-
Santa Rosa, CA	44,775	99.49	336	7.43-	188.8	1,426-	3.71-
Stockton, CA	40,855	91.54	333	8.00-	247.4	1,940-	4.92-
Vallejo, CA	35,778	96.59	345	9.59	229.9	2,255	5.27-
Visalia, CA	28,811	99.91	296	10.12	249.0	2,501	6.26
Yuba City, CA	11,835	99.35	108	9.07	241.1	2,063	5.92
Alaska	16,348	99.78	119	7.32-	258.9	1,962	4.57-
Anchorage, AK	5,625	99.75	44	8.13	300.5	2,635	4.85
Hawaii	80,233	83.64	529	6.43-	198.8	1,286-	4.30-
Honolulu, HI	57,680	83.31	393	6.71-	217.1	1,467-	4.33-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

All cancers

This volume contains data on hospitalization and mortality for all cancers and for the two leading causes of death from cancer: cancer of the digestive organs and peritoneum and cancer of the trachea, bronchus, and lung. In 1986, cancer was the second leading cause of death for aged Medicare enrollees, after heart disease, accounting for 20.7 percent of all deaths among the aged.

Out of 8.7 million discharges among the Medicare aged in 1986, 714,863 discharges (8.2 percent) had a principal diagnosis of cancer. The discharge rate for cancer was 26.77 discharges per 1,000 enrollees (Table 1). In 1986, the death rate from cancer among the general aged population was 10.56 deaths per 1,000 persons. The 30-day post-admission mortality rate among the Medicare population was 160.1 deaths per 1,000 discharges, i.e., more than 16 percent of total discharges. There were 4.29 deaths within 30 days of admission per 1,000 enrollees.

Age and sex patterns

Both discharge rates among the Medicare population and mortality rates among the general population were substantially higher for men than for women across all three age groups. For example, among enrollees aged 85 years or over, the discharge rate for men was more than twice that for women, 42.78 discharges per 1,000 men versus 19.82

discharges per 1,000 women. Similarly, the mortality rate in the general population was 24.59 deaths per 1,000 men that age, versus only 12.77 per 1,000 women.

Discharge rates were highest among those aged 75–84 for both men and women. Deaths per 1,000 persons in the general population rose sharply with age, approximately doubling from the age group 65–74 years to the age group 85 years or over.

Patterns by race

Medicare discharge rates for all cancers combined were similar for white and black women in all age groups. Discharge rates tended to be slightly higher for black men than for white men, except in the oldest age group.

Over all age groups combined, black men had a population mortality rate that was 27 percent higher than the rate for white men; the death rate for black women was only 4 percent higher than that for white women. The differences in mortality between black and white persons decreased with age. There were 14.55 deaths per 1,000 black men aged 65–74 years, versus only 10.63 per 1,000 white men the same age. There were 7.17 cancer deaths per 1,000 among black women aged 65–74 years and 6.58 among white women of that age. At age 85 years or over, death rates were 26.20 for black men and 24.62 for white men, 12.54 for black women and 12.83 for white women.

Thirty-day post-admission mortality per 1,000 discharges was higher among black enrollees than white enrollees for all age and sex groups. Over all age groups combined, the 30-day post-admission rates were about 8 percent greater for black men and 19 percent greater for black women than for their white counterparts.

Variation by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region, division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan statistical area (MSA) level are shown in Table 3. Figures 1–3 were derived from the data in these tables.

Discharge rates

The highest discharge rates for all cancers combined tended to occur in States in the eastern and southern parts of the Nation (Figure 1), although the highest discharge rate for cancer was 31.72 per 1,000 enrollees in South Dakota. The lowest discharge rates tended to be in the Western United States. The lowest rates were 19.10 in Utah and 19.43 in Hawaii. The variation of MSA-specific discharge rates by census division is shown in Figure 2. The highest median rates were in the New England, Middle Atlantic, and East South Central

NOTE: All cancers is ICD-9-CM codes 140–208.

Divisions, whereas the lowest median rates were in the Mountain and Pacific Divisions.

The variation among MSAs with respect to discharges per 1,000 enrollees was small in relation to the variation in other diagnostic categories. The coefficient of variation for all cancers was 0.13, the lowest coefficient of variation of any diagnostic category. (Fracture of the neck of femur had the same low value.)

Population death rates

In 1986, the highest population mortality rates from cancer for the aged occurred primarily in States along the east coast and in Ohio and Alaska (Figure 3). The lowest population mortality occurred in the West, excluding the Far West States of California, Washington, and Nevada. The highest rate, 13.36 deaths per 1,000 aged persons, was found in the District of Columbia, and the lowest rate, 7.89 per 1,000, in Utah. The correlation coefficient between the population death rates per 1,000 persons for cancer and the hospital discharge rate per 1,000 enrollees for cancer was 0.44, suggesting a moderate positive relationship between cancer mortality in an area and its hospital utilization.

Correlations between rates

Pearson correlation coefficients were computed between sets of rates consisting of MSA and rural area rates. Discharge rates per 1,000 enrollees and 30-day post-admission death rates per 1,000 discharges were uncorrelated ($r = 0.04$). As noted earlier, discharges per 1,000 enrollees were positively correlated with deaths per 1,000 persons ($r = 0.44$). To the extent that population mortality reflects the underlying level of cancer, high hospitalization rates would be expected in areas of high population mortality as a result of greater numbers of people seeking treatment.

Urban-rural patterns

Nationwide, the discharge rate for cancer was similar in urban and rural areas (27.09 and 25.96 discharges per 1,000 enrollees, respectively). Thirty-day post-admission death rates were also similar (158.8 deaths per 1,000 discharges in urban areas and 163.6 per 1,000 in rural areas).

Table 1. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

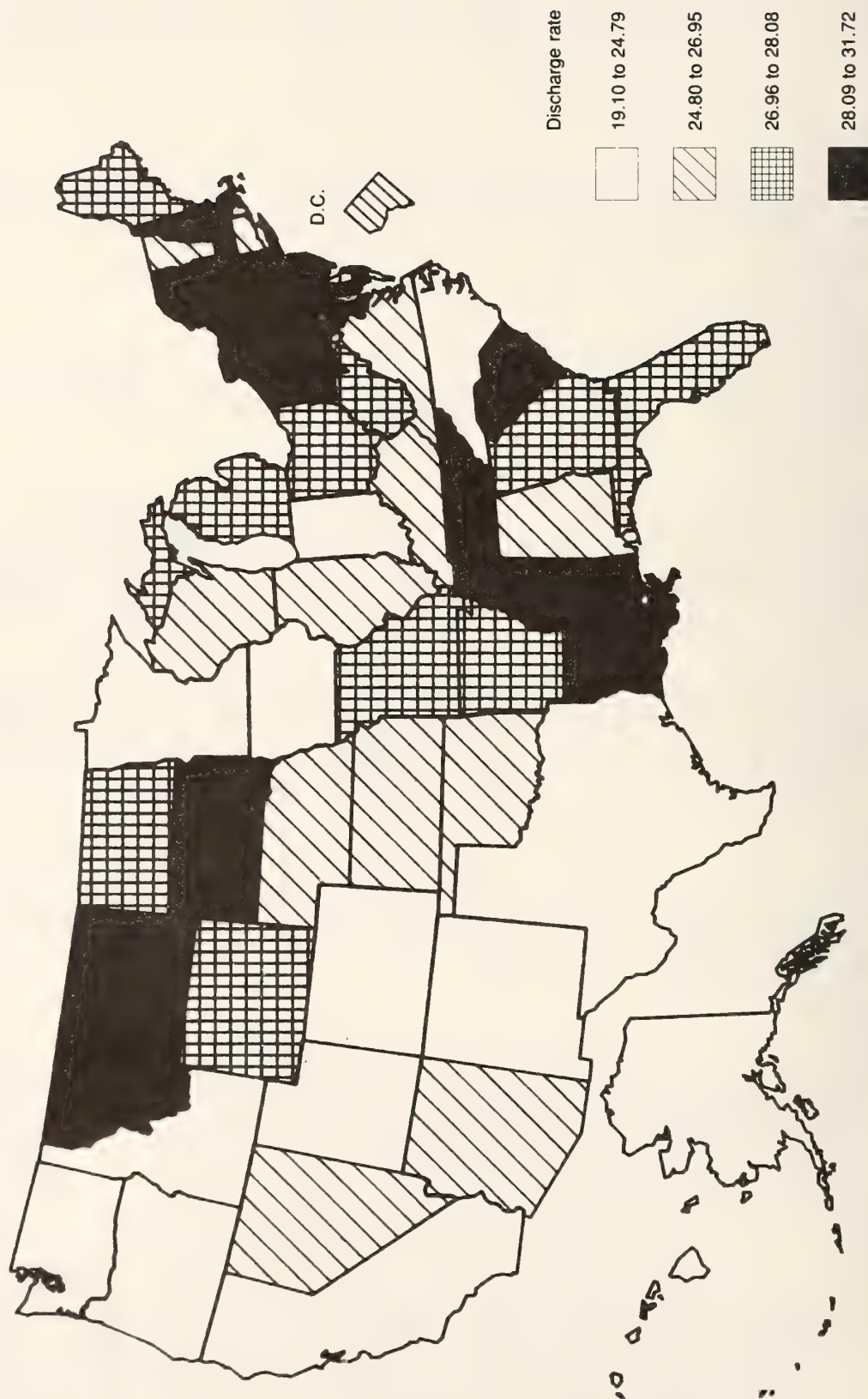
Age, sex, and race	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
All persons (1)	26,698,924	96.70	714,863	26.77	160.1	4.29	10.56
65-74 years	16,162,594	96.33	398,516	24.65	149.5	3.69	8.46
75-84 years	8,020,447	96.96	250,818	31.27	167.4	5.23	12.87
85 years or over	2,515,883	98.32	65,529	26.04	196.7	5.12	16.11
Men	10,650,991	96.01	370,883	34.82	170.0	5.92	13.95
65-74 years	7,056,445	95.90	210,099	29.77	161.7	4.82	10.86
75-84 years	2,912,366	96.02	131,599	45.18	177.2	8.01	18.45
85 years or over	682,180	97.22	29,185	42.78	196.7	8.42	24.59
Women	16,047,933	97.16	343,980	21.43	149.4	3.20	8.25
65-74 years	9,106,149	96.66	188,417	20.69	135.8	2.81	6.57
75-84 years	5,108,081	97.51	119,219	23.33	156.5	3.65	9.54
85 years or over	1,833,703	98.74	36,344	19.82	196.6	3.90	12.77
White	23,574,066	96.62	632,254	26.81	158.9	4.26	10.50
65-74 years	14,207,064	96.23	350,332	24.65	148.2	3.65	8.37
75-84 years	7,134,499	96.88	223,218	31.28	166.2	5.20	12.80
85 years or over	2,232,503	98.26	58,704	26.29	195.1	5.13	16.12
Men	9,391,016	95.94	326,121	34.72	169.2	5.88	13.75
65-74 years	6,216,472	95.83	183,817	29.56	160.7	4.75	10.63
75-84 years	2,573,989	95.94	116,230	45.15	176.8	7.98	18.27
85 years or over	600,555	97.12	26,074	43.41	195.7	8.50	24.62
Women	14,183,050	97.07	306,133	21.58	147.9	3.19	8.29
65-74 years	7,990,592	96.55	166,515	20.83	134.4	2.80	6.58
75-84 years	4,560,510	97.42	106,988	23.45	154.7	3.63	9.56
85 years or over	1,631,948	98.69	32,630	19.99	194.6	3.89	12.83
Black	1,991,943	97.86	55,468	27.84	179.8	5.01	12.19
65-74 years	1,213,014	97.54	31,436	25.91	170.3	4.41	10.30
75-84 years	583,429	98.11	18,832	32.27	185.9	6.00	14.84
85 years or over	195,500	99.11	5,200	26.59	214.8	5.71	16.86
Men	792,788	97.49	30,294	38.21	182.9	6.99	17.52
65-74 years	519,305	97.28	17,432	33.56	177.9	5.97	14.55
75-84 years	215,401	97.67	10,411	48.33	186.8	9.03	22.49
85 years or over	58,082	98.74	2,451	42.19	202.4	8.54	26.20
Women	1,199,155	98.10	25,174	20.99	176.0	3.69	8.61
65-74 years	693,709	97.74	14,004	20.18	160.9	3.25	7.17
75-84 years	368,028	98.37	8,421	22.88	184.8	4.23	10.17
85 years or over	137,418	99.26	2,749	20.00	225.9	4.52	12.54

(1) Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

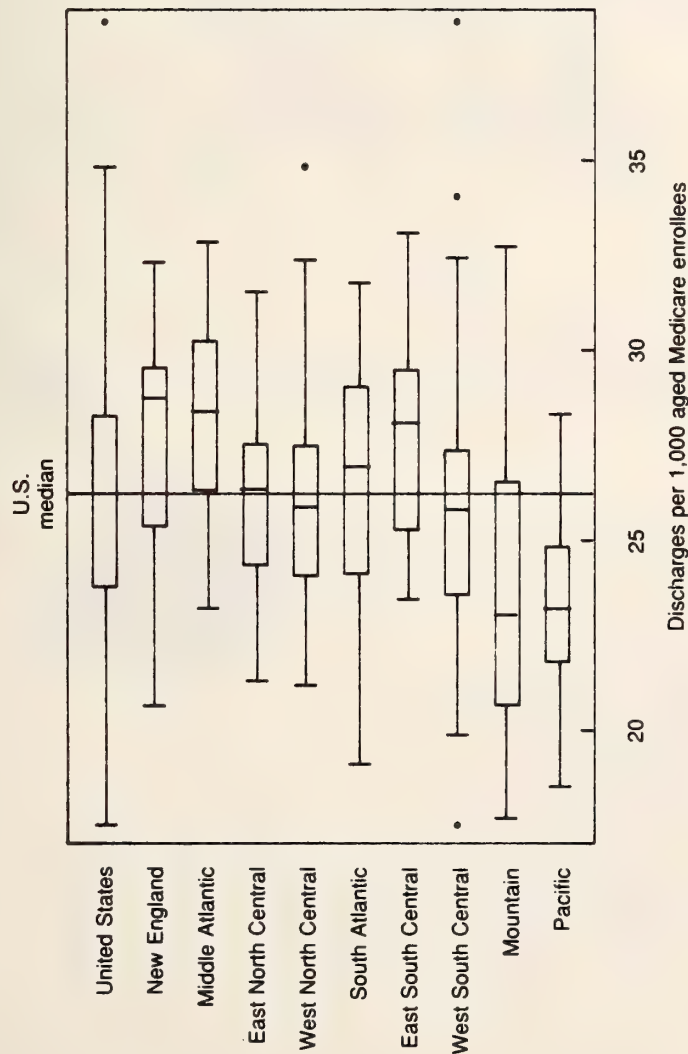
SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Figure 1. All cancers: Short-stay hospital discharges per 1,000 aged Medicare enrollees, by State: 1986



NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included.
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

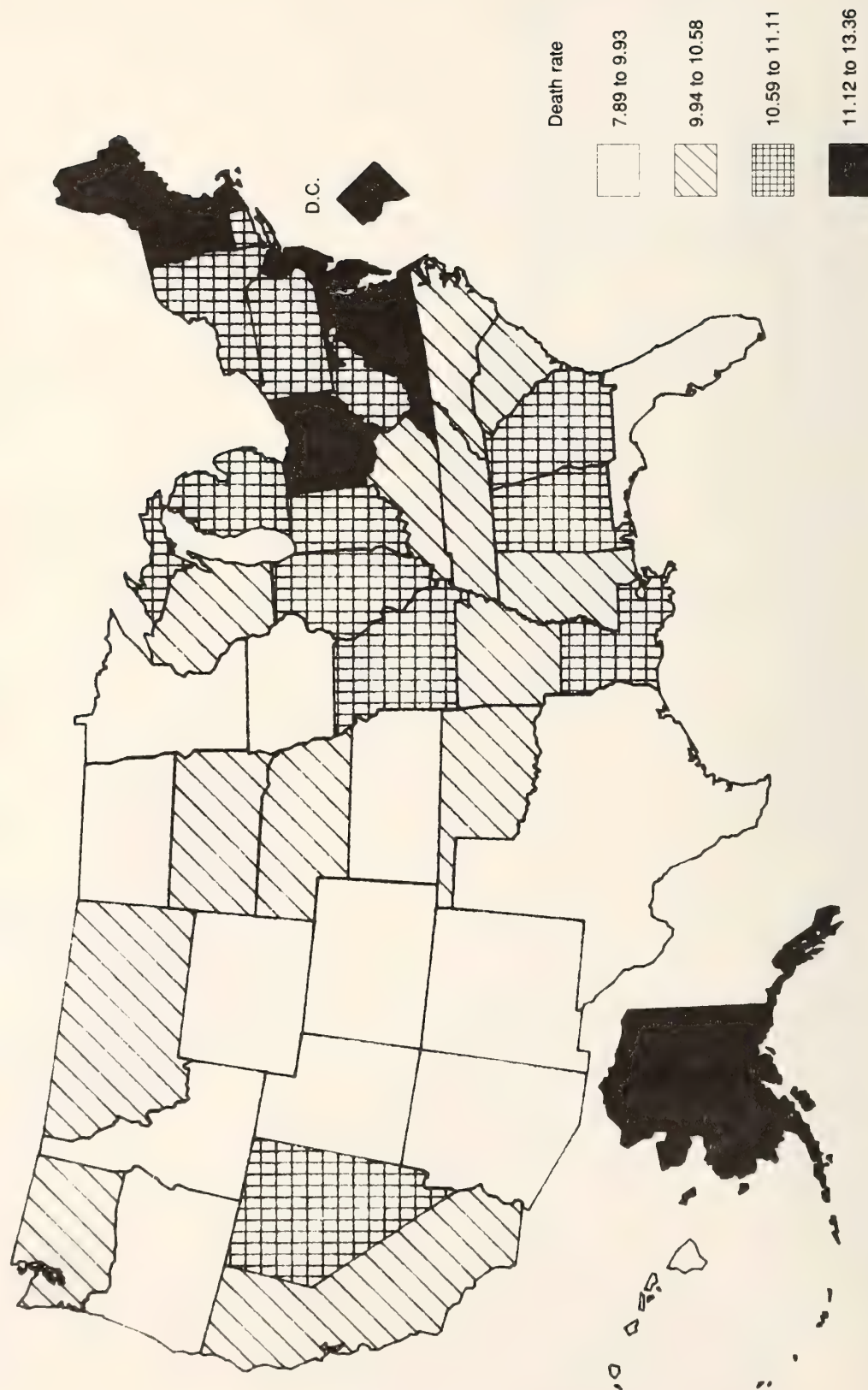
Figure 2. All cancers: Short-stay hospital discharges per 1,000 aged Medicare enrollees for rural and metropolitan statistical areas, by division: United States, 1986



Outliers for discharges per 1,000 enrollees		
Area	Rural or metropolitan statistical area	Rate
United States	Monroe, LA	38.59
West North Central	Sioux Falls, SD	34.80
West South Central	McAllen, TX	17.45
	Lake Charles, LA	34.03
	Monroe, LA	38.59

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Figure 3. All cancers: Deaths per 1,000 aged population, by State: 1986



SOURCES: Population death rates were derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,598,924	96.70	714,863	26.77	160.1	4.287	10.59
Metropolitan	19,363,284	95.80	522,213	27.09+	158.8	4.303	10.83+
Rural	7,335,640	99.16	192,650	25.96-	163.6+	4.242	9.96-
Northeast	6,276,897	98.04	180,664	28.95+	156.7-	4.543+	11.26+
Metropolitan	5,564,648	97.84	160,742	29.10+	155.7-	4.537+	11.31+
Rural	712,249	99.69	19,922	27.84+	164.9	4.587+	10.86
New England	1,569,313	96.20	44,742	28.75+	158.5	4.566+	11.49+
Metropolitan	1,342,886	95.66	38,421	28.93+	157.0	4.551+	11.48+
Rural	226,427	99.53	6,321	27.73	167.8	4.651+	11.50+
Maine	153,209	99.88	4,158	27.06	168.5	4.571	11.48+
Metropolitan	82,345	99.89	2,164	26.38	163.9	4.336	11.21
Rural	70,864	99.87	1,994	27.84	173.6	4.839	11.79+
New Hampshire	114,752	98.98	3,430	29.97+	196.8+	5.906+	12.12+
Metropolitan	74,135	98.55	2,220	30.19+	206.3+	6.245+	12.43+
Rural	40,617	99.77	1,210	29.57	179.2	5.293+	11.56
Vermont	62,781	99.82	1,664	26.45	186.6+	4.967	11.44
Metropolitan	10,422	99.91	279	27.02	215.3	5.885	13.01
Rural	52,359	99.80	1,385	26.34	180.8	4.786	11.14
Massachusetts	709,478	93.75	22,086	31.55+	157.7	4.983+	11.63+
Metropolitan	659,025	93.40	20,603	31.73+	159.1	5.060+	11.61+
Rural	50,453	98.58	1,483	29.21	137.2	3.987	11.90+
Rhode Island	132,332	97.59	3,606	27.55	124.2-	3.426-	11.28
Metropolitan	132,332	97.59	3,606	27.55	124.2-	3.426-	11.28
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Connecticut	396,761	97.56	9,798	24.85-	150.5-	3.744-	11.11+
Metropolitan	384,627	97.50	9,549	24.98-	149.9-	3.749-	11.16+
Rural	12,134	99.66	249	20.62-	173.0	3.554	9.51
Middle Atlantic	4,707,584	98.68	135,922	29.02+	156.1-	4.536+	11.18+
Metropolitan	4,221,762	98.55	122,321	29.15+	155.3-	4.534+	11.25+
Rural	485,822	99.76	13,601	27.89+	163.5	4.557+	10.56
New York	2,143,249	98.98	61,953	29.01+	154.0-	4.476+	11.07+
Metropolitan	1,922,371	98.89	55,499	29.00+	153.0-	4.446+	11.08+
Rural	220,878	99.75	6,454	29.05+	162.8	4.739+	11.02

See notes at end of table.

Table 2. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, state, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 non-HMD discharges	Per 1,000 non-HMD enrollees	
New Jersey	916,155	97.84	27,339	30.04+	157.0	4.723+	11.58+
Metropolitan	916,155	97.84	27,339	30.04+	157.0	4.723+	11.58+
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Pennsylvania	1,648,180	98.75	46,630	28.47+	158.5	4.509+	11.11+
Metropolitan	1,383,236	98.56	39,483	28.78+	157.4	4.530+	11.29+
Rural	264,944	99.78	7,147	26.91	164.1	4.404	10.17
North Central	6,901,975	96.39	182,506	26.44-	159.6	4.216	10.60
Metropolitan	4,398,761	95.22	117,940	27.02	162.1	4.377+	11.03+
Rural	2,503,214	98.51	64,566	25.44-	154.9-	3.940-	9.85-
East North Central	4,745,430	97.76	125,715	26.56	163.3+	4.334	10.85+
Metropolitan	3,453,558	97.13	92,626	27.02	165.3+	4.461+	11.11+
Rural	1,291,872	99.47	33,089	25.37-	157.9	4.002-	10.16-
Ohio	1,263,869	99.46	34,541	27.49+	160.1	4.392	11.20+
Metropolitan	987,528	99.60	27,319	27.90+	162.5	4.529+	11.44+
Rural	276,341	98.95	7,222	26.02	150.9	3.910-	10.37
Indiana	623,062	97.86	15,193	24.48-	169.3+	4.130	10.92
Metropolitan	399,457	97.01	10,085	25.44-	172.3+	4.365	11.21+
Rural	223,605	99.41	5,108	22.79-	163.3	3.714-	10.42
Illinois	1,265,011	95.90	33,927	26.95	164.8	4.444+	10.88+
Metropolitan	952,934	94.73	25,583	27.08	166.4+	4.508+	11.22+
Rural	312,077	99.68	8,344	26.55	159.9	4.250	9.79-
Michigan	982,444	96.86	26,672	27.21	161.3	4.382	10.67
Metropolitan	744,347	96.06	20,291	27.46	162.1	4.441	10.75
Rural	238,097	99.44	6,381	26.45	158.7	4.200	10.41
Wisconsin	611,044	99.60	15,382	24.95-	165.0	4.126	10.31
Metropolitan	369,292	99.43	9,348	25.31-	169.5	4.304	10.58
Rural	241,752	99.86	6,034	24.41-	157.9	3.860-	9.91-
West North Central	2,156,545	93.50	56,791	26.17-	151.4-	3.961-	10.09-
Metropolitan	945,203	88.82	25,314	27.04	150.7-	4.072-	10.76
Rural	1,211,342	97.51	31,477	25.51-	151.9-	3.876-	9.54-
Minnesota	397,258	77.30	9,640	24.20-	157.3	3.808-	9.91-
Metropolitan	187,915	67.07	4,445	24.15-	164.4	3.961	10.45
Rural	209,343	89.55	5,195	24.24-	151.3	3.674-	9.29-

See notes at end of table.

Table 2. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Iowa	404,057	99.37	10,024	24.65-	138.6-	3,418-	9.78-
	136,818	98.24	3,394	24.96-	132.5-	3,304-	9.94
	267,239	99.96	6,630	24.50-	141.7-	3,476-	9.71-
Missouri	655,875	98.17	18,278	27.79+	153.6	4,267	10.62
	383,255	96.99	11,147	29.30+	150.6-	4,415	11.34+
	272,620	99.88	7,131	25.71	158.4	4,064	9.63-
North Dakota	85,433	98.28	2,446	27.87	144.8	4,031	9.57-
	22,964	98.14	668	28.89	143.8	4,168	9.58
	62,469	98.34	1,778	27.50	145.1	3,982	9.57-
South Dakota	96,216	99.59	3,109	31.72+	144.1	4,569	10.15
	20,427	99.92	694	33.93+	148.2	5,021	11.38
	75,789	99.51	2,415	31.13+	142.9	4,450	9.84
Nebraska	209,910	98.52	5,349	25.19-	156.2	3,946	9.98-
	70,076	95.86	1,811	26.08	163.0	4,257	11.39
	139,834	99.91	3,538	24.76-	152.8	3,794-	9.28-
Kansas	307,796	95.82	7,945	25.67	156.8	4,019	9.86-
	123,748	93.24	3,155	25.68	146.4	3,749-	10.34
	184,048	97.63	4,790	25.66	163.6	4,196	9.53-
South	8,980,101	97.94	242,060	26.93	161.2	4,331	10.39-
	5,757,016	96.87	155,039	27.00	155.8-	4,203-	10.65
	3,223,085	99.91	87,021	26.79	170.8+	4,559+	9.93-
South Atlantic	4,668,855	96.31	125,734	26.97	159.8	4,303	10.56
	3,313,125	94.94	90,390	27.33+	153.7-	4,199	10.65
	1,355,730	99.84	35,344	26.08-	175.4+	4,556+	10.33-
Delaware	70,251	99.94	1,906	27.37	155.7	4,260	12.19+
	44,355	99.95	1,182	26.99	136.2	3,691	12.71+
	25,896	99.94	724	28.00	188.1	5,225	11.33
Maryland	436,606	99.49	12,495	28.89+	157.2	4,532	12.11+
	395,091	99.44	11,318	28.96+	155.3	4,492	12.04+
	41,515	99.95	1,177	28.21	174.9	4,905	12.81+
District of Col.	66,196	99.75	1,738	26.60	143.9	3,828	13.36+
	66,196	99.75	1,738	26.60	143.9	3,828	13.36+
	0	0.00	0	0.00	0.0	0.000	0.00

See notes at end of table.

Table 2. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Virginia Metropolitan Rural	566,135	99.91	14,998	26.72	176.0+	4.701+	11.40+
	355,193	99.87	9,301	26.59	174.0+	4.628+	11.88+
	210,942	99.97	5,697	26.94	179.4+	4.823+	10.62
West Virginia Metropolitan Rural	244,259	98.98	6,838	27.95	175.1+	4.881+	10.94
	90,704	97.39	2,710	30.06+	173.3	5.194+	11.30
	153,555	99.95	4,128	26.72	176.2+	4.697	10.72
North Carolina Metropolitan Rural	689,138	99.93	14,530	21.33-	180.5+	3.834-	10.14-
	346,905	99.89	7,234	21.15-	177.1+	3.737-	10.24
	342,233	99.96	7,296	21.50-	183.9+	3.932-	10.04-
South Carolina Metropolitan Rural	329,020	99.44	9,385	28.95+	169.9	4.895+	10.34
	186,873	99.05	5,192	28.26	159.6	4.488	10.43
	142,147	99.95	4,193	29.86+	182.7+	5.427+	10.23
Georgia Metropolitan Rural	561,716	99.71	15,286	27.58	161.8	4.431	10.69
	313,319	99.54	8,555	27.82	156.8	4.331	11.25+
	248,397	99.93	6,731	27.28	168.2	4.556	10.01-
Florida Metropolitan Rural	1,705,534	90.97	48,558	28.08+	145.3-	4.086-	9.93-
	1,514,489	90.04	43,160	28.14+	143.4-	4.042-	9.91-
	191,045	99.17	5,398	27.63	161.0	4.443	10.05
East South Central Metropolitan Rural	1,726,272	99.80	48,586	28.11+	164.7+	4.614+	10.49
	873,594	99.64	24,286	27.99+	160.7	4.485+	11.09+
	852,678	99.97	24,300	28.24+	168.7+	4.744+	9.90-
Kentucky Metropolitan Rural	422,657	99.70	11,093	26.18	164.3	4.290	10.58
	183,264	99.37	4,901	27.01	158.0	4.256	11.40+
	239,393	99.96	6,192	25.56	169.3	4.316	9.98-
Tennessee Metropolitan Rural	550,327	99.65	16,466	29.94+	163.5	4.876+	10.30
	342,007	99.46	10,173	29.93+	158.2	4.726+	10.71
	208,320	99.96	6,293	29.96+	172.2	5.120+	9.65-
Alabama Metropolitan Rural	463,131	99.97	11,913	25.78-	163.5	4.192	10.83
	281,960	99.97	7,312	26.11	160.4	4.171	11.40+
	181,171	99.97	4,601	25.26-	168.3	4.225	9.98-
Mississippi Metropolitan Rural	290,157	99.98	9,114	31.17+	168.8	5.255+	10.19
	66,363	99.96	1,900	28.68	181.7	5.202+	10.89
	223,794	99.98	7,214	31.90+	165.4	5.271+	9.98-

See notes at end of table.

Table 2. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
West South Central Metropolitan Rural	2,584,974	99.74	67,740	26.07-	161.3	4.195	10.01-
	1,570,297	99.59	40,363	25.77-	157.5	4.052-	10.40
	1,014,677	99.97	27,377	26.52	166.9+	4.411	9.43-
Arkansas Metropolitan Rural	321,739	99.96	8,908	27.33	163.9	4.482	10.11-
	100,966	99.98	2,696	26.71	158.7	4.242	10.33
	220,773	99.95	6,212	27.61	166.2	4.591	10.02-
Louisiana Metropolitan Rural	415,968	99.98	12,889	30.95+	164.4	5.048+	10.97
	268,137	99.98	8,399	31.52+	163.5	5.117+	11.51+
	147,831	99.99	4,490	29.94+	166.1	4.927+	10.05
Oklahoma Metropolitan Rural	378,716	99.02	9,919	26.01	171.0+	4.450	10.06-
	180,038	98.00	4,516	25.18-	166.3	4.202	10.41
	198,678	99.96	5,403	26.75	175.0+	4.672	9.76-
Texas Metropolitan Rural	1,468,551	99.81	36,024	24.42-	156.8	3.823-	9.69-
	1,021,156	99.73	24,752	24.27-	153.7-	3.728-	10.11-
	447,395	99.97	11,272	24.75-	163.6	4.036-	8.79-
West Metropolitan Rural	4,539,951	93.08	109,633	24.00-	164.0+	3.950-	10.10-
	3,642,859	91.96	88,492	24.25-	165.1+	4.017-	10.20-
	897,092	97.68	21,141	23.03-	159.6	3.681-	9.67-
Mountain Metropolitan Rural	1,200,638	94.36	28,582	23.57-	161.1	3.802-	9.36-
	720,893	92.10	17,100	23.69-	161.8	3.838-	9.40-
	479,745	97.98	11,482	23.40-	160.0	3.747-	9.31-
Montana Metropolitan Rural	97,248	99.90	2,797	28.30	163.2	4.629	9.98
	21,173	99.90	670	31.47+	181.4	5.715+	10.62
	76,075	99.91	2,127	27.43	157.5	4.332	9.80
Idaho Metropolitan Rural	109,822	99.77	2,342	20.91-	156.1	3.267-	9.61-
	18,471	99.90	347	18.77-	133.2	2.500-	8.58-
	91,351	99.74	1,995	21.34-	160.1	3.420-	9.81
Wyoming Metropolitan Rural	42,408	99.91	1,176	27.41	164.6	4.515	9.38-
	12,265	99.93	326	26.62	161.2	4.346	9.74
	30,143	99.89	850	27.72	165.9	4.582	9.23
Colorado Metropolitan Rural	266,663	94.73	5,946	22.26-	149.2	3.319-	9.24-
	201,737	95.23	4,585	22.84-	150.9	3.448-	9.41-
	64,926	93.22	1,361	20.51-	143.2	2.930-	8.73-

See notes at end of table.

Table 2. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Mexico	125,371	92.49	2,752	21.65-	163.7	3.561-	9.03-
Metropolitan	51,612	85.86	1,010	19.63-	149.0	2.947-	9.27-
Rural	73,759	97.76	1,742	23.03-	172.3	3.979	8.84-
Arizona	348,748	91.33	8,965	25.47-	164.2	4.191	9.50-
Metropolitan	257,931	89.11	6,713	25.91	166.9	4.330	9.48-
Rural	90,817	98.31	2,252	24.23-	156.1	3.794	9.56-
Utah	128,579	99.92	2,488	19.10-	134.7-	2.564-	7.89-
Metropolitan	93,319	99.94	1,786	19.00-	135.5-	2.566-	7.85-
Rural	35,260	99.88	702	19.37-	132.6	2.558-	7.98-
Nevada	81,799	86.15	2,116	25.73	210.5+	5.435+	10.79
Metropolitan	64,385	84.73	1,663	25.76	206.4+	5.339+	10.88
Rural	17,414	91.83	453	25.61	225.7+	5.785+	10.43
Pacific	3,339,313	92.62	81,051	24.16-	165.1+	4.003-	10.36-
Metropolitan	2,921,966	91.93	71,392	24.38-	165.9+	4.060-	10.39-
Rural	417,347	97.77	9,659	22.61-	159.1	3.604-	10.08-
Washington	461,706	92.41	10,663	22.96-	158.0	3.635-	10.23
Metropolitan	346,977	90.86	8,028	23.11-	159.9	3.701-	10.31
Rural	114,729	97.42	2,635	22.52-	152.0	3.437-	9.96
Oregon	303,778	86.84	6,777	22.13-	158.3	3.505-	9.92-
Metropolitan	181,677	80.38	4,046	22.28-	160.1	3.565-	10.03-
Rural	122,101	98.65	2,731	21.90-	155.7	3.415-	9.73-
California	2,477,248	93.71	61,577	24.79-	167.7+	4.174	10.51
Metropolitan	2,330,007	93.36	58,008	24.86-	167.6+	4.182	10.50
Rural	147,241	99.57	3,569	23.73-	169.7	4.036	10.69
Alaska	16,348	99.78	408	24.56	140.8	3.454	11.90
Metropolitan	5,625	99.75	129	23.19	118.2	2.773	10.64
Rural	10,723	99.80	279	25.26	151.3	3.794	12.50
Hawaii	80,233	83.64	1,626	19.43-	146.8	2.876-	8.20-
Metropolitan	57,680	83.31	1,181	19.82-	148.8	2.980-	8.27-
Rural	22,553	84.47	445	18.47-	141.5	2.621-	8.01-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	714,863	26.77	160.1	4.287	10.59
Northeast	6,276,897	98.04	180,664	28.95+	156.7-	4.543+	11.26+
New England	1,569,313	96.20	44,742	28.75+	158.5	4.566+	11.49+
Maine	153,209	99.88	4,158	27.06	168.5	4.571	11.48+
Bangor, ME	16,035	99.87	374	23.31	147.1	3.418	11.75
Lewiston-Auburn, ME	13,464	99.93	372	27.86	184.5	5.137	10.96
Portland, ME	52,846	99.89	1,418	26.93	162.8	4.412	11.11
New Hampshire	114,752	98.98	3,430	29.97+	196.8+	5.906+	12.12+
Manchester, NH	44,397	97.91	1,378	31.38+	195.6+	6.145+	12.46+
Portsmouth, NH	29,738	99.52	842	28.43	223.7+	6.398+	12.38+
Vermont	62,781	99.82	1,664	26.45	186.6+	4.967	11.44
Burlington, VT	10,422	99.91	279	27.02	215.3	5.885	13.01
Massachusetts	709,478	93.75	22,086	31.55+	157.7	4.983+	11.63+
Boston, MA	429,794	95.67	13,669	32.29+	157.2	5.093+	11.91+
New Bedford, MA	65,540	98.67	1,861	28.76	151.3	4.353	10.04
Pittsfield, MA	20,281	91.00	628	31.28	165.3	5.148	10.74
Springfield, MA	72,225	92.57	2,189	30.76+	173.2	5.514+	11.69+
Worcester, MA	71,185	79.42	2,256	32.23+	161.9	5.230+	11.36
Rhode Island	132,332	97.59	3,606	27.55	124.2-	3.426-	11.28
Providence, RI	132,332	97.59	3,606	27.55	124.2-	3.426-	11.28
Connecticut	396,761	97.56	9,798	24.85-	150.5-	3.744-	11.11+
Bridgeport, CT	96,911	96.63	2,439	25.37	150.3	3.828	11.26
Hartford, CT	157,139	99.16	3,952	25.25	152.7	3.849-	10.78
New Haven, CT	102,964	95.31	2,472	24.21-	142.8	3.470-	11.78+
New London, CT	27,613	99.70	686	24.99	158.3	3.947	10.59

See notes at end of table.

Table 3. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and Metropolitan Statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Middle Atlantic	4,707,584	98.68	135,922	29.02+	156.1-	4.536+	11.18+
New York	2,143,249	98.98	61,953	29.01+	154.0-	4.476+	11.07+
Albany, NY	115,122	98.78	3,112	27.21	158.4	4.313	12.20+
Binghamton, NY	35,576	99.96	868	24.56	154.2	3.784	11.07
Buffalo, NY	134,451	98.66	3,595	27.09	169.9	4.602	11.68+
Elmira, NY	13,699	99.94	379	27.86	125.7	3.523	9.96
Glens Falls, NY	15,222	99.63	496	32.52+	140.0	4.582	10.52
Nassau-Suffolk, NY	297,143	99.88	8,893	30.13+	162.0	4.906+	12.09+
New York, NY	997,473	99.58	29,727	29.86+	146.5-	4.384	10.54
Niagara Falls, NY	30,841	99.69	947	30.92+	161.1	4.961	11.44
Orange County, NY	30,488	99.89	967	31.72+	163.7	5.210	12.24+
Poughkeepsie, NY	27,864	98.47	743	26.64	160.5	4.283	11.11
Rochester, NY	102,542	98.80	2,550	25.10	157.3	3.942	10.45
Syracuse, NY	75,217	99.92	1,925	25.78	156.9	4.032	12.44+
Utica-Rome, NY	46,733	99.90	1,297	27.98	161.9	4.552	11.50
New Jersey	916,155	97.84	27,339	30.04+	157.0	4.723+	11.58+
Atlantic City, NJ	46,406	97.93	1,394	30.02+	166.9	5.020	11.71
Bergen-Passaic, NJ	171,246	99.45	4,911	28.82+	151.5	4.386	10.88
Jersey City, NJ	64,069	99.25	2,086	32.98+	152.3	5.010+	11.49
Middlesex, NJ	91,009	94.70	2,660	29.63+	154.7	4.568	11.82+
Monmouth-Ocean, NJ	154,643	99.57	4,708	30.28+	159.2	4.816+	11.64+
Newark, NJ	211,511	99.40	6,447	30.75+	155.0	4.792+	12.10+
Trenton, NJ	38,499	97.14	1,211	31.86+	144.1	4.582	10.83
Vineland, NJ	16,382	96.17	429	26.30	210.3	5.420	10.97
Pennsylvania	1,648,180	98.75	46,630	28.47+	158.5	4.509+	11.11+
Allentown, PA-NJ	94,668	99.09	2,595	27.57	156.5	4.334	10.70
Altoona, PA	20,692	99.99	559	27.17	155.3	4.169	11.40
Beaver County, PA	27,562	99.95	845	30.82	168.4	5.199	11.65
Erie, PA	35,244	99.92	925	26.46	152.7	4.057	10.13
Harrisburg, PA	72,929	99.95	1,904	26.32	169.1	4.444	11.08
Johnstown, PA	40,260	99.97	1,008	25.17	176.2	4.400	9.76
Lancaster, PA	48,045	99.93	1,202	24.93	141.2	3.513-	11.04
Philadelphia PA-NJ	569,054	95.81	16,963	30.18+	155.5	4.693+	11.70+
Pittsburgh, PA	323,494	99.06	9,909	30.90+	164.1	5.067+	11.82+
Reading, PA	48,476	99.88	1,244	25.56	172.1	4.402	10.65
Scranton, PA	122,888	99.95	3,070	25.32	142.2-	3.613-	10.46
Sharon, PA	19,009	99.97	602	31.63	173.7	5.495	10.78
State College, PA	10,032	99.97	304	30.25	176.2	5.393	12.51
Williamsport, PA	16,877	99.98	491	29.12	131.7	3.849	10.02
York, PA	48,541	99.96	1,129	23.17-	148.4	3.436-	10.53

See notes at end of table.

Table 3. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
North Central	6,901,975	96.39	182,506	26.44-	159.6	4.216	10.60
East North Central	4,745,430	97.76	125,715	26.56	163.3+	4.334	10.85+
Ohio	1,263,869	99.46	34,541	27.49+	160.1	4.392	11.20+
Akron, OH	75,615	99.90	2,060	27.46	162.0	4.418	11.22
Canton, OH	51,895	99.97	1,264	24.45	158.8	3.880	10.40
Cincinnati, OH-KY-IN	159,407	99.96	4,982	31.54+	177.0+	5.582+	12.42+
Cleveland, OH	242,585	99.71	6,872	28.66+	166.4	4.766+	11.71+
Columbus, OH	121,377	99.73	3,080	25.68	139.0-	3.565-	11.29
Dayton, OH	103,547	99.95	2,586	25.16	151.2	3.803	11.09
Hamilton, OH	26,009	99.95	718	27.79	167.8	4.646	12.30
Lima, OH	19,579	99.97	520	26.68	182.8	4.866	11.04
Lorain-Elyria, OH	27,340	99.85	776	28.55	175.8	5.014	10.93
Mansfield, OH	15,230	99.96	411	27.13	171.6	4.644	12.04
Steubenville, OH-WV	21,934	98.57	685	31.36	158.4	4.938	11.86
Toledo, OH	70,660	99.95	2,127	30.31+	150.1	4.539	11.10
Youngstown, OH	69,319	99.95	1,806	26.25	169.8	4.453	11.07
Indiana	623,062	97.86	15,193	24.48-	169.3+	4.130	10.92
Anderson, IN	17,198	99.83	435	25.45	165.6	4.162	11.39
Bloomington, IN	7,913	99.87	199	25.17	196.4	4.927	9.98
Elkhart-Goshen, IN	15,647	99.92	371	23.77	140.7	3.323	9.16
Evansville, IN-KY	34,434	95.72	867	25.32	160.7	4.043	10.95
Fort Wayne, IN	37,565	97.77	847	22.66-	167.0	3.786	11.35
Gary-Hammond, IN	61,160	97.01	1,530	25.14	174.6	4.384	11.15
Indianapolis, IN	118,407	93.81	3,239	27.69	177.8+	4.902+	11.41+
Kokomo, IN	10,842	99.94	257	23.90	213.1	5.027	10.43
Lafayette, IN	11,228	99.92	267	23.90	173.8	4.188	11.68
Muncie, IN	13,759	99.91	290	21.34-	133.0	2.794-	11.74
South Bend, IN	33,170	99.93	796	24.08	170.7	4.110	11.18
Terre Haute, IN	19,585	99.89	476	24.65	196.8	4.787	10.99
Illinois	1,265,011	95.90	33,927	26.95	164.8	4.444+	10.88+
Aurora-Elgin, IL	30,946	98.68	821	26.71	165.5	4.437	10.85
Bloomington, IL	12,672	99.94	378	29.96	176.9	5.273	11.61
Champaign, IL	13,391	99.91	350	26.40	164.4	4.364	12.38
Chicago, IL	608,135	92.94	16,070	26.72	162.5	4.349	11.20+
Decatur, IL	15,992	99.97	458	28.85	184.3	5.329	10.42
Joliet, IL	28,047	97.18	777	27.89	171.4	4.785	10.72
Kankakee, IL	12,020	99.94	313	25.99	180.4	4.661	11.38
Lake County, IL	36,099	96.52	1,030	28.80	161.9	4.688	11.14
Peoria, IL	43,549	99.93	1,306	30.01+	173.2	5.186+	11.11
Rockford, IL	28,351	88.93	774	27.38	185.6	5.091	11.99
Springfield, IL	24,799	99.96	745	30.46	173.4	5.279	11.79

See notes at end of table.

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Michigan	982,444	96.86	26,672	27.21	161.3	4.382	10.67
Ann Arbor, MI	17,760	95.12	481	27.38	178.9	4.874	12.75+
Battle Creek, MI	16,831	99.89	399	23.78	164.6	3.869	10.70
Benton Harbor, MI	21,618	99.88	545	25.17	195.9	4.915	10.67
Detroit, MI	448,826	96.43	12,670	28.46+	165.6	4.707+	10.77
Flint, MI	43,084	91.01	1,168	27.38	170.7	4.663	10.71
Grand Rapids, MI	64,091	95.42	1,692	26.43	142.4	3.750	10.29
Jackson, MI	17,046	99.82	458	26.99	134.5	3.660	10.33
Kalamazoo, MI	21,512	99.85	517	24.29	164.5	3.986	10.76
Lansing, MI	32,460	90.23	751	23.36-	153.7	3.592	10.34
Muskegon, MI	18,957	98.06	488	25.83	128.4	3.299	10.32
Saginaw, MI	42,162	96.18	1,122	26.73	149.6	3.972	11.04
Wisconsin	611,044	99.60	15,382	24.95-	165.0	4.126	10.31
Appleton, WI	34,483	99.96	789	22.71-	173.8	3.964	10.21
Eau Claire, WI	16,955	99.94	493	28.69	182.5	5.226	9.60
Green Bay, WI	19,185	99.97	455	23.71	152.3	3.590	10.24
Janesville, WI	16,529	99.85	463	27.91	145.6	4.081	9.81
Kenosha, WI	14,291	99.91	337	23.54	127.4	3.004-	10.65
LaCrosse, WI	11,858	99.91	316	26.71	186.3	5.032	11.59
Madison, WI	30,776	99.74	717	23.35-	115.7-	2.722-	9.42
Milwaukee, WI	166,813	99.21	4,375	26.35-	177.1+	4.675	11.10
Racine, WI	20,503	99.90	523	25.55	181.9	4.684	9.67
Sheboygan, WI	14,461	99.98	352	24.22	170.4	4.116	10.80
Wausau, WI	12,945	99.95	283	21.62-	194.1	4.208	10.41
West North Central	2,156,545	93.50	56,791	26.17-	151.4-	3.961-	10.09-
Minnesota	397,258	77.30	9,640	24.20-	157.3	3.808-	9.91-
Duluth, MN-WI	29,977	76.74	769	25.93	186.3	4.824	10.83
Minneapolis, MN-WI	141,769	64.45	3,282	23.72-	166.3	3.939	10.62
Rochester, MN	9,393	99.67	245	26.30	121.3	3.180	9.88
St. Cloud, MN	12,248	70.92	270	22.06	161.0	3.534	8.29-
Iowa	404,057	99.37	10,024	24.65-	138.6-	3.418-	9.78-
Cedar Rapids, IA	19,323	99.94	463	24.06	120.6-	2.894-	9.13
Davenport, IA-IL	44,646	99.94	1,223	27.46	184.4	5.043	10.46
Des Moines, IA	40,067	94.50	955	24.19	119.5-	2.889-	10.38
Dubuque, IA	11,460	99.95	240	21.22-	141.1	2.985	11.05
Iowa City, IA	6,240	99.90	173	27.84	91.5-	2.556-	9.52
Sioux City, IA-NE	15,951	99.96	409	25.59	151.0	3.903	9.75
Waterloo, IA	19,521	99.96	503	25.72	135.7	3.467	9.45

See notes at end of table.

Table 3. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Missouri	655,875	98.17	18,278	27.79+	153.6	4.267	10.62
Columbia, MO	8,560	99.98	201	23.54	130.9	3.030	9.33
Joplin, MO	19,275	99.95	553	28.74	186.5	5.343	11.35
Kansas City, MO-KS	154,919	95.72	4,568	29.70+	140.0-	4.162	10.89
St. Joseph, MO	13,630	99.97	372	27.39	165.0	4.524	9.51
St. Louis, MO-IL	283,167	97.43	8,057	28.67+	154.6	4.434	11.79+
Springfield, MO	27,676	99.94	726	26.27	145.9	3.820	10.26
North Dakota	85,433	98.28	2,446	27.87	144.8	4.031	9.57-
Bismarck, ND	8,160	95.13	264	32.21	143.6	4.622	9.50
Fargo, ND-MN	14,138	96.57	377	26.42	148.0	3.953	9.52
Grand Forks, ND	5,687	99.95	151	26.29	147.2	3.799	9.13
South Dakota	96,216	99.59	3,109	31.72+	144.1	4.569	10.15
Rapid City, SD	7,152	99.89	233	32.33	180.5	5.848	12.67
Sioux Falls, SD	13,275	99.93	461	34.80+	132.0	4.575	10.70
Nebraska	209,910	98.52	5,349	25.19-	156.2	3.946	9.98-
Lincoln, NE	20,994	98.50	470	22.52-	163.7	3.697	10.21
Omaha, NE-IA	57,609	95.39	1,572	27.53	156.5	4.316	11.61
Kansas	307,796	95.82	7,945	25.67	156.8	4.019	9.86-
Lawrence, KS	4,965	87.78	114	23.01	164.2	3.797	9.70
Topeka, KS	18,983	97.26	409	21.60-	134.1	2.869-	9.63
Wichita, KS	45,844	88.57	1,060	23.36-	164.9	3.854	10.08
South	8,980,101	97.94	242,060	26.93	161.2	4.331	10.39-
South Atlantic	4,668,855	96.31	125,734	26.97	159.8	4.303	10.56
Delaware	70,251	99.94	1,906	27.37	155.7	4.260	12.19+
Wilmington, DE-NJ-MD	58,114	99.65	1,580	27.44	141.8	3.893	12.26+
Maryland	436,606	99.49	12,495	28.89+	157.2	4.532	12.11+
Baltimore, MD	244,878	99.90	7,507	30.98+	157.2	4.851+	12.71+
Cumberland, MD-WV	17,051	99.95	448	26.43	185.9	4.902	10.67
Hagerstown, MD	14,522	99.95	315	21.80-	150.3	3.325	9.65
District of Col.	66,196	99.75	1,738	26.60	143.9	3.828	13.36+
Washington, DC-MD-VA	261,121	99.05	6,435	25.03-	152.3	3.822-	11.95+

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Table 3. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	14,998	26.72	176.0+	4.701+	11.40+
Charlottesville, VA	12,020	99.92	291	24.19	187.5	4.571	10.65
Danville, VA	15,532	99.99	354	22.97	175.8	4.034	11.49
Lynchburg, VA	18,110	99.99	459	25.51	183.9	4.656	11.11
Norfolk, VA	102,601	99.96	3,135	31.10+	180.0+	5.590+	12.75+
Richmond, VA	85,698	99.98	2,293	27.24	163.8	4.469	12.17+
Roanoke, VA	30,622	99.98	747	24.62	173.8	4.285	10.20
West Virginia	244,259	98.98	6,838	27.95	175.1+	4.881+	10.94
Charleston, WV	34,215	99.96	1,003	29.49	153.7	4.543	11.17
Huntington, WV-KY-OH	40,891	99.95	1,216	29.71	188.0	5.565+	10.71
Parkersburg, WV-OH	19,888	99.94	588	29.58	161.1	4.763	10.16
Wheeling, WV-OH	22,016	82.51	665	30.64	193.2	5.876+	11.18
North Carolina	689,138	99.93	14,530	21.33-	180.5+	3.834-	10.14-
Asheville, NC	24,469	99.92	497	20.38-	149.9	3.064-	9.23
Burlington, NC	14,505	99.99	272	19.01-	160.2	3.022-	9.58
Charlotte, NC	109,337	99.79	2,168	20.13-	201.4+	4.065	10.96
Fayetteville, NC	13,388	99.98	249	19.04-	148.6	2.780-	8.94
Greensboro, NC	99,387	99.97	2,240	22.83-	171.3	3.893	10.13
Hickory, NC	23,392	99.97	480	20.79-	183.6	3.798	8.89-
Jacksonville, NC	5,134	99.86	111	22.09	232.4	5.050	9.82
Raleigh-Durham, NC	56,484	99.86	1,168	21.04-	166.5	3.493-	10.23
Wilmington, NC	12,634	99.97	297	24.10	135.6	3.267	11.43
South Carolina	329,020	99.44	9,385	28.95+	169.9	4.895+	10.34
Anderson, SC	16,583	99.70	490	29.94	174.4	5.286	9.92
Charleston, SC	34,246	98.90	1,036	30.76+	154.2	4.702	11.19
Columbia, SC	35,361	99.98	967	27.91	162.2	4.501	11.44
Florence, SC	11,195	99.96	342	31.33	178.4	5.531	9.60
Greenville, SC	65,893	98.01	1,726	26.59	152.2	4.028	9.72
Georgia	561,716	99.71	15,286	27.58	161.8	4.431	10.69
Albany, GA	9,292	99.92	287	31.57	154.8	4.863	10.19
Athens, GA	13,510	99.96	371	27.81	163.0	4.498	10.44
Atlanta, GA	189,539	99.27	5,437	29.23+	155.7	4.516	11.35+
Augusta, GA-SC	32,938	99.93	906	27.99	167.0	4.661	11.14
Columbus, GA-AL	22,847	99.96	478	21.36-	168.8	3.594	11.42
Macon, GA	25,929	99.97	578	22.86-	157.8	3.610	11.25
Savannah, GA	25,338	99.94	643	25.72	134.4	3.416	10.75

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Table 3. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Florida	1,705,534	90.97	48,558	28.08+	145.3-	4.086-	9.93-
Bradenton, FL	42,906	99.68	1,134	25.84	182.3	4.712	9.56
Daytona Beach, FL	62,616	92.90	1,849	29.12	143.6	4.170	9.91
Fort Lauderdale, FL	181,839	81.09	5,698	30.75+	135.9-	4.174	9.78-
Fort Myers, FL	61,428	99.65	1,780	28.34	128.6-	3.644-	9.99
Fort Pierce, FL	41,198	99.28	1,221	29.04	159.8	4.651	10.12
FT. Walton Beach, FL	10,169	99.88	208	20.60-	144.1	3.031	10.29
Gainesville, FL	16,758	99.58	456	27.05	151.7	4.058	10.87
Jacksonville, FL	80,895	98.22	2,010	25.08	129.5-	3.244-	12.27+
Lakeland, FL	55,495	99.56	1,446	25.71	133.8-	3.428-	8.89-
Melbourne, FL	46,501	99.72	1,495	31.87+	129.8-	4.126	10.33
Miami-Hialeah, FL	168,502	79.57	5,232	30.71+	146.4-	4.511	9.60-
Naples, FL	23,433	99.75	634	26.25	146.4	3.851	9.12
Ocala, FL	31,367	99.50	769	24.13	163.1	3.947	9.87
Orlando, FL	90,604	98.55	2,429	26.83	147.2	3.966	10.47
Panama City, FL	11,817	99.70	319	26.97	218.4	5.919	12.20
Pensacola, FL	29,972	99.89	751	25.24	144.0	3.629	10.92
Sarasota, FL	77,895	99.81	2,249	28.07	147.4	4.177	9.88
Tallahassee, FL	17,414	97.85	373	21.51-	180.8	3.870	10.89
Tampa, FL	323,951	87.05	9,030	27.56	142.7-	3.949-	9.73-
West Palm Beach, FL	139,729	85.22	4,077	28.58+	138.2-	3.944	9.41-
East South Central	1,726,272	99.80	48,586	28.11+	164.7+	4.614+	10.49
Kentucky	422,657	99.70	11,093	26.18	164.3	4.290	10.58
Lexington, KY	31,008	98.87	746	24.29	143.1	3.473	11.39
Louisville, KY-IN	107,485	99.20	2,794	26.29	155.2	4.078	11.62+
Owensboro, KY	10,319	99.96	286	28.00	148.3	4.111	10.33
Tennessee	550,327	99.65	16,466	29.94+	163.5	4.876+	10.30
Chattanooga, TN-GA	50,061	99.97	1,465	29.52	146.7	4.292	10.54
Clarksville, TN-KY	12,541	99.91	358	28.41	160.3	4.519	10.38
Jackson, TN	10,064	99.95	333	33.13	150.3	5.035	9.68
Johnson City, TN-VA	55,068	99.97	1,387	25.28	179.6	4.537	9.65
Knoxville, TN	70,970	99.97	2,077	29.45+	164.2	4.792	10.13
Memphis, TN-AR-MS	88,836	98.06	2,856	32.35+	164.3	5.300+	12.19+
Nashville, TN	92,994	99.96	2,764	29.86+	150.4	4.501	10.53

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Table 3. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1985

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Alabama	463,131	99.97	11,913	25.78-	163.5	4.192	10.83
Anniston, AL	13,124	99.97	324	24.93	182.4	4.568	11.86
Birmingham, AL	108,546	99.98	2,721	25.24	163.2	4.102	11.53+
Dothan, AL	12,690	99.94	331	26.24	158.9	4.131	10.33
Florence, AL	16,687	99.97	434	26.06	176.6	4.581	9.81
Gadsden, AL	14,295	99.97	386	27.29	150.0	4.060	12.24
Huntsville, AL	17,137	99.96	481	28.36	146.1	4.098	11.28
Mobile, AL	50,513	99.96	1,475	29.28	153.1	4.474	11.64
Montgomery, AL	29,832	99.97	724	24.56	158.2	3.861	11.43
Tuscaloosa, AL	13,604	99.99	317	23.41	166.5	3.903	11.90
Mississippi	290,157	99.98	9,114	31.17+	168.8	5.255+	10.19
Biloxi-Gulfport, MS	18,079	99.97	524	29.03	207.9+	6.031+	11.50
Jackson, MS	35,305	99.98	1,006	28.55	157.4	4.490	10.55
Pascagoula, MS	8,556	99.88	257	30.13	209.4	6.303	10.98
West South Central	2,584,974	99.74	67,740	26.07-	161.3	4.195	10.01-
Arkansas	321,739	99.96	8,908	27.33	163.9	4.482	10.11-
Fayetteville, AR	11,803	99.95	273	22.92	177.2	4.029	11.31
Fort Smith, AR-OK	21,413	99.98	572	26.68	163.9	4.343	9.40
Little Rock, AR	50,966	99.99	1,337	26.40	157.3	4.180	10.46
Pine Bluff, AR	11,012	99.98	296	26.81	147.0	3.932	9.90
Louisiana	415,968	99.98	12,889	30.95+	164.4	5.048+	10.97
Alexandria, LA	13,819	99.96	379	27.45	163.6	4.472	9.42
Baton Rouge, LA	39,583	99.97	1,198	30.48+	145.6	4.419	11.26
Houma-Thibodaux, LA	13,501	100.00	435	32.47	175.2	5.583	10.43
Lafayette, LA	14,620	99.99	365	25.17	164.7	4.144	11.45
Lake Charles, LA	16,436	99.98	559	34.03+	176.4	5.958+	10.85
Monroe, LA	14,648	99.99	565	38.59+	147.1	5.637	9.74
New Orleans, LA	118,708	99.98	3,815	32.43+	162.7	5.242+	12.07+
Shreveport, LA	36,822	99.98	1,083	29.51	182.8	5.332+	12.26+
Oklahoma	378,716	99.02	9,919	26.01	171.0+	4.450	10.06-
Enid, OK	8,215	99.94	221	26.75	152.5	4.079	9.82
Lawton, OK	8,221	99.99	163	19.91-	161.4	3.198	8.72
Oklahoma City, OK	88,646	97.45	2,223	25.17	150.4	3.807	10.29
Tulsa, OK	71,032	98.13	1,818	25.76	187.4+	4.836	10.88

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	AS percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Texas	1,468,551	99.81	36,024	24.42-	156.8	3,823-	9.69-
Abilene, TX	13,100	99.96	353	26.95	162.2	4,329	9.76
Amarillo, TX	19,063	99.97	494	26.02	157.3	4,118	10.62
Austin, TX	47,578	99.95	1,194	25.11	160.7	4,039	10.32
Beaumont, TX	42,323	99.98	1,151	27.08	143.0	3,849	10.23
Brazoria, TX	12,486	99.78	365	29.29	133.6	3,900	10.43
Brownsville, TX	20,169	99.86	486	23.35	199.3	4,713	8.88-
Bryan, TX	6,955	99.96	166	23.79	160.3	3,861	8.94
Corpus Christi, TX	28,417	95.56	734	25.68	149.7	3,838	10.26
Dallas, TX	172,118	99.95	3,950	23.23-	151.5	3,503-	10.40
El Paso, TX	37,292	99.94	753	20.01-	156.6	3,167-	9.55
Fort Worth, TX	97,947	99.96	2,145	22.10-	147.1	3,240-	10.39
Galveston, TX	19,376	99.94	529	27.27	168.7	4,574	13.00+
Houston, TX	187,992	99.85	4,826	25.84	146.6-	3,783-	10.89
Killeen-Temple, TX	17,182	99.97	419	24.29	164.8	4,005	8.70-
Laredo, TX	8,421	99.99	189	21.95	186.0	4,062	7.47-
Longview, TX	20,547	99.98	541	26.29	166.0	4,358	10.26
Lubbock, TX	18,957	99.97	422	22.16-	189.6	4,217	8.10-
McAllen, TX	27,402	99.82	496	17.45-	195.4	3,391	5.95-
Midland, TX	7,362	99.96	166	22.68	175.7	3,998	10.44
Odessa, TX	9,207	99.99	209	22.75	157.0	3,532	8.85
San Angelo, TX	11,213	99.99	309	27.37	125.9	3,451	9.50
San Antonio, TX	107,989	99.28	2,634	24.40-	147.2	3,620-	9.97
Sherman-Denison, TX	14,532	99.99	346	23.76	137.2	3,218	9.25
Texarkana, TX-AR	15,315	99.99	454	29.45	156.8	4,651	9.78
Tyler, TX	18,223	99.98	464	25.40	145.7	3,680	9.63
Victoria, TX	6,871	99.97	220	31.74	143.4	4,502	9.85
Waco, TX	23,624	99.99	570	24.11	157.0	3,791	10.37
Wichita Falls, TX	14,462	99.97	334	23.18	180.1	4,145	11.80
West	4,539,951	93.08	109,633	24.00-	164.0+	3,950-	10.10-
Mountain	1,200,638	94.36	28,582	23.57-	161.1	3,802-	9.36-
Montana	97,248	99.90	2,797	28.30	163.2	4,629	9.98
Billings, MT	12,097	99.88	370	30.47	170.6	5,221	10.05
Great Falls, MT	9,076	99.91	300	32.79	194.7	6,369	11.37
Idaho	109,822	99.77	2,342	20.91-	156.1	3,267-	9.61-
Boise City, ID	18,471	99.90	347	18.77-	133.2	2,500-	8.58-
Wyoming	42,408	99.91	1,176	27.41	164.6	4,515	9.38-
Casper, WY	5,379	99.91	143	26.78	152.3	4,138	9.58
Cheyenne, WY	6,886	99.96	183	26.50	168.2	4,505	9.87

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Colorado	266,663	94.73	5,946	22.26-	149.2	3.319-	9.24-
Boulder-Longmont, CO	15,143	97.96	313	20.81-	117.2	2.444-	8.74
Colorado Springs, CO	24,899	95.03	512	20.77-	141.2	2.978-	9.10-
Denver, CO	119,624	94.10	2,782	23.47-	146.9	3.439-	9.76-
Fort Collins, CO	15,089	99.71	372	24.43	165.1	4.078	9.92
Greeley, CO	11,610	99.62	251	21.30-	179.9	3.822	8.75
Pueblo, CO	15,372	94.43	355	22.92	191.3	4.334	7.92-
New Mexico	125,371	92.49	2,752	21.65-	163.7	3.561-	9.03-
Albuquerque, NM	33,783	81.01	634	18.98-	162.2	3.090-	9.73
Las Cruces, NM	9,375	99.94	216	22.66	110.8	2.550-	7.70-
Santa Fe, NM	8,454	93.66	160	18.78-	148.3	2.829	8.84
Arizona	348,748	91.33	8,965	25.47-	164.2	4.191	9.50-
Phoenix, AZ	187,381	86.74	5,011	26.66	168.4	4.492	9.44-
Tucson, AZ	70,550	96.06	1,702	23.92-	162.4	3.906	9.58-
Utah	128,579	99.92	2,488	19.10-	134.7-	2.564-	7.89-
Provo-Orem, UT	16,076	99.93	288	17.60-	161.1	2.835-	7.79-
Salt Lake City, UT	77,243	99.94	1,498	19.29-	130.6-	2.510-	7.87-
Nevada	81,799	86.15	2,116	25.73	210.5+	5.435+	10.79
Las Vegas, NV	45,252	82.98	1,241	27.36	220.0+	6.034+	10.91
Reno, NV	19,133	89.17	422	21.99-	167.1	3.709	10.83
Pacific	3,339,313	92.62	81,051	24.16-	165.1+	4.003-	10.36-
Washington	461,706	92.41	10,663	22.96-	158.0	3.635-	10.23
Bellingham, WA	13,629	99.51	321	23.27	131.5	3.041-	9.89
Bremerton, WA	15,439	96.59	339	21.85-	125.9	2.783-	9.26
Olympia, WA	14,254	90.98	339	23.71	174.9	4.201	10.40
Richland, WA	12,559	99.85	268	21.18-	176.1	3.774	8.84
Seattle, WA	159,828	86.57	3,881	24.36	170.1	4.154	10.62
Spokane, WA	41,237	94.51	920	22.27-	151.9	3.380-	10.98
Tacoma, WA	50,245	97.24	1,001	19.88-	145.8	2.891-	9.77
Vancouver, WA	17,048	80.32	357	20.96-	145.7	3.061-	10.50
Yakima, WA	22,738	99.74	602	26.00	156.5	4.029	9.39
Oregon	303,778	86.84	6,777	22.13-	158.3	3.505-	9.92-
Eugene, OR	28,947	88.67	589	20.19-	150.0	3.031-	10.71
Medford, OR	20,326	99.78	449	21.72-	222.7+	4.831	9.78
Portland, OR	99,155	72.79	2,232	22.75-	157.8	3.576-	10.28
Salem, OR	33,249	90.39	776	23.06-	138.7	3.226-	8.60-

See notes at end of table.

Table 3. All cancers: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
California	2,477,248	93.71	61,577	24.79-	167.7+	4.174	10.51
Anaheim-Santa Ana, CA	167,171	89.39	4,286	25.92	166.6	4.335	10.46
Bakersfield, CA	44,969	99.76	1,203	26.35	167.0	4.412	10.27
Chico, CA	27,102	99.09	711	25.76	187.6	4.829	10.32
Fresno, CA	58,425	99.90	1,302	21.98-	173.9	3.842	9.80
Los Angeles, CA	677,939	91.40	17,958	26.64	169.5+	4.536+	10.65
Merced, CA	13,462	99.86	319	23.40	175.5	4.080	10.99
Modesto, CA	33,619	98.80	733	21.61-	163.2	3.528	9.79
Oakland, CA	188,258	99.08	4,414	23.47-	166.4	3.946	10.80
Oxnard-Ventura, CA	49,488	93.74	1,359	27.39	153.7	4.209	9.84
Redding, CA	17,796	99.73	510	28.31	181.2	5.130	11.79
Riverside, CA	203,246	90.92	4,905	23.91-	161.3	3.858-	9.99-
Sacramento, CA	120,273	91.81	3,044	25.25	168.5	4.264	10.92
Salinas, CA	29,131	99.86	706	23.96	159.8	3.855	10.32
San Diego, CA	205,402	91.35	5,047	24.47-	172.3	4.255	10.44
San Francisco, CA	163,753	89.02	4,162	25.36	166.7	4.248	10.42
San Jose, CA	105,258	99.50	2,199	20.98-	154.2	3.251-	9.90
Santa Barbara, CA	38,021	99.70	866	22.54-	149.6	3.378-	10.51
Santa Cruz, CA	24,640	99.77	527	21.07-	148.5	3.140-	10.31
Santa Rosa, CA	44,775	99.49	1,095	24.16	166.1	4.017	11.36
Stockton, CA	40,855	91.54	919	21.97-	178.6	3.915	11.00
Vallejo, CA	35,778	98.59	759	21.00-	185.4	3.887	11.46
Visalia, CA	28,811	99.91	673	22.84-	172.5	3.927	9.78
Yuba City, CA	11,835	99.35	311	25.82	197.6	5.043	11.16
Alaska	16,348	99.78	408	24.56	140.8	3.454	11.90
Anchorage, AK	5,625	99.75	129	23.19	118.2	2.773	10.64
Hawaii	80,233	83.64	1,626	19.43-	146.8	2.876-	8.20-
Honolulu, HI	57,680	83.31	1,181	19.82-	148.8	2.980-	8.27-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Malignant neoplasms of digestive organs and peritoneum

In 1986, cancer was the second leading cause of death for aged Medicare enrollees. Cancer of the digestive organs and peritoneum accounted for 27 percent of all cancer deaths among the Medicare aged. The death rate from this type of cancer was 2.88 deaths per 1,000 aged persons in the general population (Table 1).

There were 180,592 hospital discharges with a principal diagnosis of cancer of the digestive organs or peritoneum, for a rate of 6.76 discharges per 1,000 aged Medicare enrollees. The 30-day post-admission mortality rate was 190.9 per 1,000 discharges, or about 19 percent.

Age and sex patterns

Combining all age groups, the discharge rate was about 35 percent greater for men than for women (8.02 discharges per 1,000 enrollees for men and 5.92 for women). For this type of cancer, the discharge rate per 1,000 enrollees increased substantially from the age group 65-74 years (5.72 discharges) to the next age group, persons 75-84 years (8.34 discharges). The rate for persons 85 years or over (8.36) was virtually the same as that for the middle age group.

For each of the three mortality rates shown, men had substantially higher death rates for cancer of the digestive organs and peritoneum than women had. For example,

NOTE: Malignant neoplasms of digestive organs and peritoneum is ICD-9-CM codes 150-159, 197.4*, 197.6*-197.8*. Codes with asterisks are not used for coding underlying cause of death.

the rate of total deaths per 1,000 persons in the age group 65-74 was 65 percent greater for men than for women (2.68 versus 1.62).

Patterns by race

Discharge rates for cancer of the digestive organs and peritoneum were slightly higher for black persons than for white persons in all age and sex groups. For example, the discharge rate in the age group 65-74 years was 7.65 discharges per 1,000 enrollees for black men versus 6.71 for white men. The discharge rates for women aged 85 years or over were 8.09 and 7.55 for black and white persons, respectively.

Population mortality (deaths per 1,000 aged persons) was higher for black than white persons for all age and sex groups. Differences were most pronounced for the younger age groups. In the age group 65-74 years, the mortality rate was 3.77 deaths per 1,000 persons for black men versus 2.59 for white men and 2.18 deaths per 1,000 for black women versus 1.57 per 1,000 for white women.

Thirty-day post-admission mortality per 1,000 discharges was higher among black than white persons across all age and sex groups. For example, among men aged 65-74 years, there were 222.9 deaths per 1,000 discharges for black persons and 182.9 per 1,000 discharges for white persons. For black women aged 85 years or over, there were 269.8 deaths per 1,000 discharges, versus 226.2 per 1,000 among white women that age.

Variation by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region, division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan statistical area (MSA) level are shown in Table 3. Figures 1-3 were derived from the data in these tables.

Discharge rates

The variation in discharge rates across the Nation is shown in Figure 1. The States with the highest hospital discharge rates for this kind of cancer were in the Northeast section of the United States, along with Louisiana, Mississippi, and South Dakota. The highest rate was 8.53 discharges per 1,000 enrollees in Massachusetts. The lowest rates, as with all cancers, tended to be in the West. The State with the lowest rate was Utah, with 4.41 discharges per 1,000 enrollees.

The variations across and within census divisions can be seen from the boxplots in Figure 2. The Mountain Division had the lowest median rate, although there was one high outlier in this division. The highest median rates were in the New England and Middle Atlantic Divisions.

The variation among MSAs with respect to hospitalization for this type of cancer was relatively low. The coefficient of variation was only 0.15, the lowest of any diagnostic

category in this compilation except all cancers and fracture of the neck of the femur.

Population death rates

As shown in Figure 3, the highest population mortality rates (deaths per 1,000 aged persons) were in the Northeast area of the United States as well as Illinois and Ohio, consistent with the high rate of hospital discharges in those areas. The lowest population mortality generally occurred in the West, with the exception of California.

Correlations between rates

Pearson correlation coefficients were computed between sets of rates for MSAs and rural areas within States. Discharges per 1,000 enrollees and 30-day post-admission deaths per 1,000 discharges were uncorrelated ($r = -0.04$). Discharges per 1,000 enrollees were positively correlated with deaths per 1,000 persons ($r = 0.54$). To the extent that population mortality reflects the underlying level of this disease, high hospitalization rates would be expected in areas of high population mortality as a result of greater numbers of people seeking treatment.

Urban-rural patterns

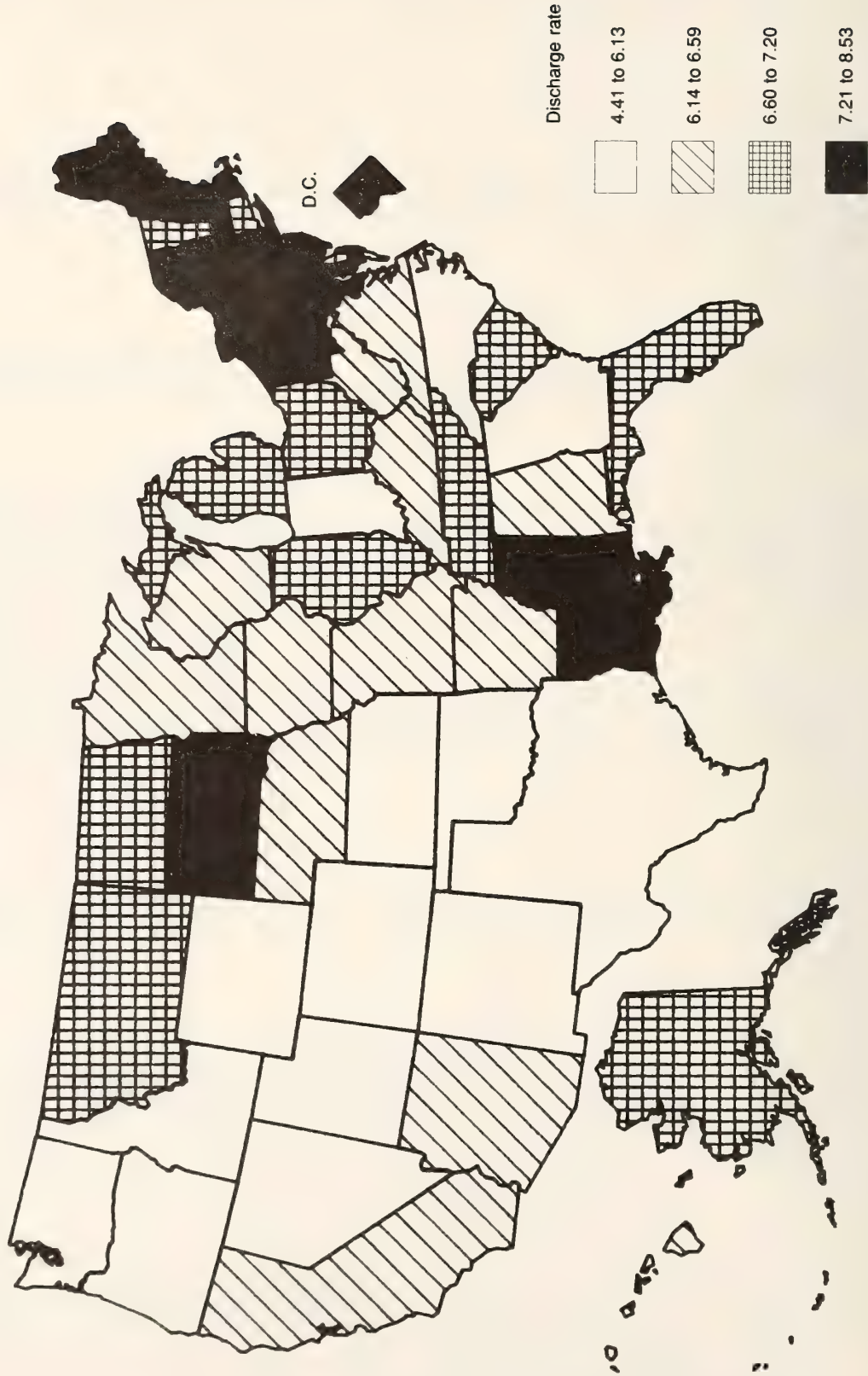
Nationwide, discharge rates for malignant neoplasms of the digestive organs and peritoneum were slightly higher in urban than rural areas (6.90 per 1,000 discharges versus 6.40), and 30-day post-admission deaths per 1,000 discharges were higher in rural than urban areas (196.5 deaths per 1,000 discharges versus 189.0 deaths per 1,000 discharges). These patterns held true in most of the census divisions. Nationwide, deaths per 1,000 aged persons in the general population were higher in urban areas than in rural areas (2.98 versus 2.64), and this pattern held true in seven of the nine census divisions.

Table 1. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

Age, sex, and race	Non-HMO enrollment		Discharges			30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees		
All persons (1)	26,698,924	96.70	180,592	6.76	190.9	1.29	2.88	
65-74 years	16,162,594	96.33	92,588	5.72	176.1	1.01	2.09	
75-84 years	8,020,447	96.96	66,968	8.34	196.2	1.64	3.63	
85 years or over	2,515,883	98.32	21,036	8.36	239.4	2.00	5.33	
Men	10,650,991	96.01	85,476	8.02	202.6	1.63	3.51	
65-74 years	7,056,445	95.90	47,994	6.80	186.1	1.27	2.68	
75-84 years	2,912,366	96.02	30,293	10.40	215.3	2.24	4.65	
85 years or over	682,180	97.22	7,189	10.53	259.7	2.74	6.65	
Women	16,047,933	97.16	95,116	5.92	180.5	1.07	2.45	
65-74 years	9,106,149	96.66	44,594	4.89	165.4	0.81	1.62	
75-84 years	5,108,081	97.51	36,675	7.17	180.5	1.30	3.03	
85 years or over	1,833,703	98.74	13,847	7.55	228.9	1.73	4.81	
White	23,574,066	96.62	158,192	6.71	188.5	1.27	2.83	
65-74 years	14,207,064	96.23	80,415	5.66	173.7	0.98	2.02	
75-84 years	7,134,499	96.88	59,111	8.28	193.5	1.60	3.57	
85 years or over	2,232,503	98.26	18,666	8.36	236.8	1.98	5.33	
Men	9,391,016	95.94	74,765	7.96	199.7	1.59	3.43	
65-74 years	6,216,472	95.83	41,754	6.71	182.9	1.23	2.59	
75-84 years	2,573,989	95.94	26,682	10.36	212.4	2.20	4.57	
85 years or over	600,555	97.12	6,329	10.53	257.4	2.71	6.64	
Women	14,183,050	97.07	83,427	5.88	178.5	1.05	2.42	
65-74 years	7,990,592	96.55	38,661	4.83	163.8	0.79	1.57	
75-84 years	4,560,510	97.42	32,429	7.11	178.0	1.27	2.97	
85 years or over	1,631,948	98.69	12,337	7.55	226.2	1.71	4.82	
Black	1,991,943	97.86	15,180	7.62	220.7	1.68	3.60	
65-74 years	1,213,014	97.54	8,049	6.63	204.7	1.36	2.85	
75-84 years	583,429	98.11	5,340	9.15	227.5	2.08	4.60	
85 years or over	195,500	99.11	1,791	9.16	271.9	2.49	5.56	
Men	792,788	97.49	6,989	8.81	235.7	2.08	4.54	
65-74 years	519,305	97.28	3,974	7.65	222.9	1.71	3.77	
75-84 years	215,401	97.67	2,336	10.84	245.7	2.66	5.76	
85 years or over	58,082	98.74	679	11.69	275.4	3.22	7.02	
Women	1,199,155	98.10	8,191	6.83	207.9	1.42	2.97	
65-74 years	693,709	97.74	4,075	5.87	187.0	1.10	2.18	
75-84 years	368,028	98.37	3,004	8.16	213.4	1.74	3.90	
85 years or over	137,418	99.26	1,112	8.09	269.8	2.18	4.88	

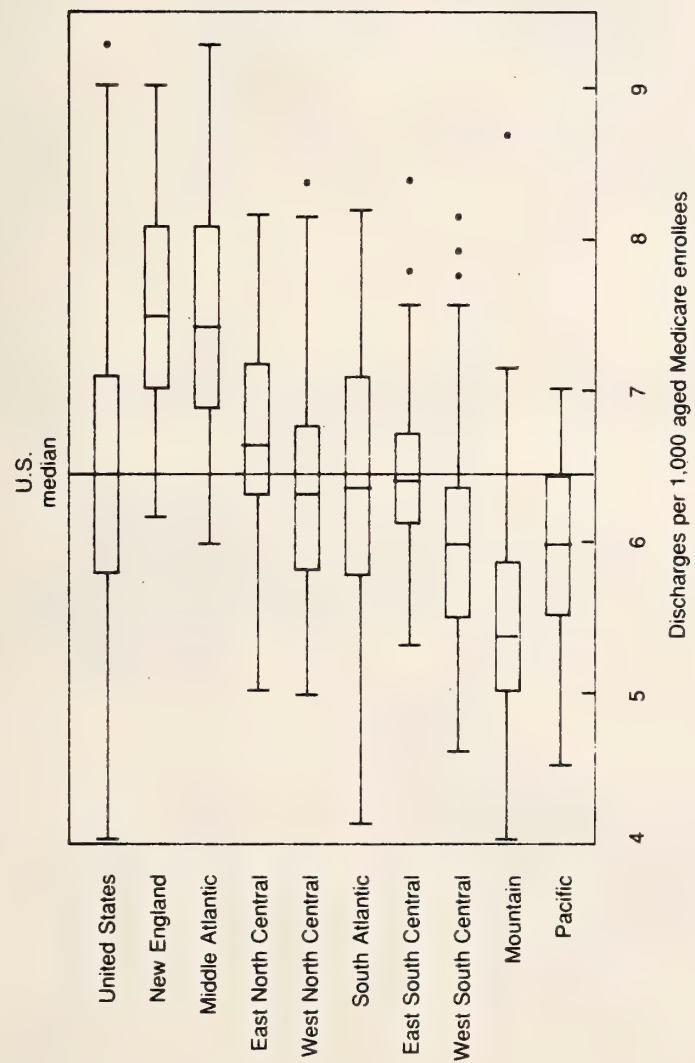
(1)Includes persons of other races in addition to white and black persons.
NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.
SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Figure 1. Malignant neoplasms of the digestive organs and peritoneum: Short-stay hospital discharges per 1,000 aged Medicare enrollees, by State: 1986



NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included.
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System.

Figure 2. Malignant neoplasms of digestive organs and peritoneum: Short-stay hospital discharges per 1,000 aged Medicare enrollees for rural and metropolitan statistical areas, by division: United States, 1986

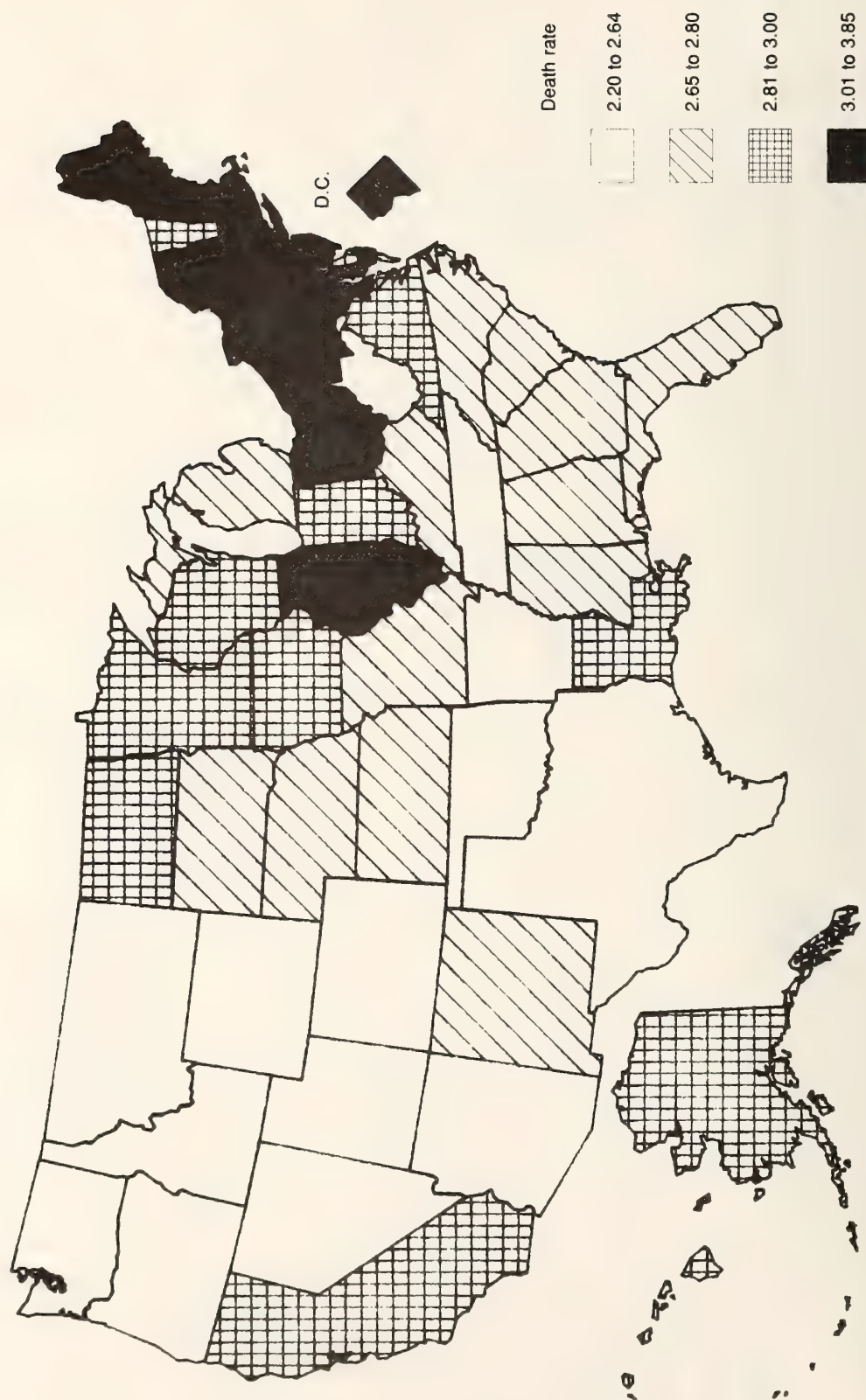


Outliers for discharges per 1,000 enrollees

Area	Rural or metropolitan statistical area	Rate
United States	Niagara Falls, NY	9.28
West North Central	Sioux Falls, SD	8.37
East South Central	Rural counties, MS	7.79
	Memphis, TN-AR-MS	8.39
West South Central	New Orleans, LA	7.76
	Lake Charles, LA	7.93
	Baton Rouge, LA	8.15
Mountain	Great Falls, MT	8.69

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Figure 3. Malignant neoplasms of digestive organs and peritoneum: Deaths per 1,000 aged population, by State: 1986



SOURCES: Population death rates were derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
United States	26,698,924	96.70	180,592	6.76	190.9	1.291	2.89
Metropolitan	19,363,284	95.80	133,254	6.90+	189.0	1.305	2.98+
Rural	7,335,640	99.16	47,338	6.40-	196.5+	1.255-	2.64-
Northeast	6,276,897	98.04	48,753	7.79+	185.0-	1.441+	3.29+
Metropolitan	5,564,648	97.84	43,471	7.84+	184.6-	1.448+	3.31+
Rural	712,249	99.69	5,282	7.39+	188.3	1.386	3.12+
New England	1,569,313	96.20	12,431	7.93+	181.7	1.442+	3.30+
Metropolitan	1,342,886	95.66	10,677	7.97+	180.2-	1.437+	3.30+
Rural	226,427	99.53	1,754	7.69+	191.1	1.466	3.32+
Maine	153,209	99.88	1,167	7.56	183.8	1.389	3.27+
Metropolitan	82,345	99.89	572	6.93	185.5	1.282	3.03
Rural	70,864	99.87	595	8.30+	182.3	1.513	3.54+
New Hampshire	114,752	98.98	956	8.33+	220.5	1.851+	3.48+
Metropolitan	74,135	98.55	642	8.68+	219.5	1.911+	3.46+
Rural	40,617	99.77	314	7.69	222.6	1.742	3.53
Vermont	62,781	99.82	438	6.93	220.6	1.534	2.99
Metropolitan	10,422	99.91	78	7.48	251.5	1.924	3.61
Rural	52,359	99.80	360	6.82	213.8	1.457	2.87
Massachusetts	709,478	93.75	6,050	8.53+	187.5	1.598+	3.38+
Metropolitan	659,025	93.40	5,640	8.56+	189.2	1.620+	3.38+
Rural	50,453	98.58	410	8.09	164.3	1.303	3.37
Rhode Island	132,332	97.59	1,045	7.93+	144.3-	1.155	3.37+
Metropolitan	132,332	97.59	1,045	7.93+	144.3-	1.155	3.37+
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Connecticut	396,761	97.56	2,775	7.02	162.9-	1.143-	3.13+
Metropolitan	384,627	97.50	2,700	7.05	162.9-	1.148-	3.13+
Rural	12,134	99.66	75	6.18	161.2	0.988	2.98
Middle Atlantic	4,707,584	98.68	36,322	7.74+	186.1	1.440+	3.29+
Metropolitan	4,221,762	98.55	32,794	7.80+	186.0	1.451+	3.32+
Rural	485,822	99.76	3,528	7.25+	186.9	1.348	3.03
New York	2,143,249	98.98	16,620	7.73+	184.2	1.428+	3.38+
Metropolitan	1,922,371	98.89	15,018	7.79+	183.5	1.434+	3.40+
Rural	220,878	99.75	1,602	7.20	191.2	1.366	3.26+

See notes at end of table.

Table 2. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Jersey Metropolitan Rural	916,155	97.84	7,288	8.02+	191.7	1,538+	3.31+
	916,155	97.84	7,288	8.02+	191.7	1,538+	3.31+
	0	0.00	0	0.00	0.0	0.000	0.00
Pennsylvania Metropolitan Rural	1,648,180	98.75	12,414	7.59+	185.4	1,403+	3.15+
	1,383,236	98.56	10,488	7.65+	185.8	1,417+	3.21+
	264,944	99.78	1,926	7.29	183.4	1,332	2.83
North Central Metropolitan Rural	6,901,975	96.39	46,447	6.71	191.4	1,281	2.92
	4,398,761	95.22	30,217	6.90	193.5	1,332	3.03+
	2,503,214	98.51	16,230	6.38-	187.4	1,193-	2.71-
East North Central Metropolitan Rural	4,745,430	97.76	32,457	6.85	190.8	1,305	2.99+
	3,453,558	97.13	23,998	6.99+	194.0	1,355+	3.08+
	1,291,872	99.47	8,459	6.49	181.7	1,176-	2.75-
Ohio Metropolitan Rural	1,263,869	99.46	8,855	7.05	186.5	1,313	3.03+
	987,528	99.60	6,972	7.13+	191.4	1,363	3.11+
	276,341	98.95	1,883	6.79	168.7	1,137	2.76
Indiana Metropolitan Rural	623,062	97.86	3,810	6.13-	196.0	1,199	2.90
	399,457	97.01	2,514	6.33	202.6	1,282	2.93
	223,605	99.41	1,296	5.78-	183.2	1,050-	2.84
Illinois Metropolitan Rural	1,265,011	95.90	8,936	7.07+	192.4	1,359	3.15+
	952,934	94.73	6,845	7.22+	194.4	1,403+	3.29+
	312,077	99.68	2,091	6.62	185.7	1,225	2.71
Michigan Metropolitan Rural	982,444	96.86	6,793	6.95	186.0	1,291	2.80
	744,347	96.06	5,217	7.07	187.1	1,318	2.87
	238,097	99.44	1,576	6.60	182.3	1,208	2.60-
Wisconsin Metropolitan Rural	611,044	99.60	4,063	6.58	199.5	1,316	2.94
	369,292	99.43	2,450	6.60	206.2	1,367	3.00
	241,752	99.86	1,613	6.55	189.4	1,239	2.86
West North Central Metropolitan Rural	2,156,545	93.50	13,990	6.38-	192.8	1,227-	2.77-
	945,203	88.82	6,219	6.55	191.7	1,250	2.89
	1,211,342	97.51	7,771	6.26-	193.6	1,210	2.67-
Minnesota Metropolitan Rural	397,258	77.30	2,543	6.29	209.0	1,298	2.84
	187,915	67.07	1,213	6.41	222.0+	1,409	2.97
	209,343	89.55	1,330	6.17	197.2	1,203	2.68

See notes at end of table.

Table 2. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1985

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Iowa	404,057	99.37	2,556	6.22-	176.2	1.097-	2.88
	136,818	98.24	862	6.27	161.0	1.001-	2.78
Metropolitan	267,239	99.96	1,694	6.20	183.8	1.144	2.92
Rural							
Missouri	655,875	98.17	4,313	6.51	191.3	1.242	2.70-
	383,255	96.99	2,656	6.91	190.4	1.313	2.94
Metropolitan	272,620	99.88	1,657	5.97-	192.7	1.145	2.36-
Rural							
North Dakota	85,433	98.28	605	6.90	207.2	1.416	2.85
	22,964	98.14	170	7.29	200.4	1.446	2.86
Metropolitan	62,469	98.34	435	6.75	209.9	1.405	2.84
Rural							
South Dakota	96,216	99.59	728	7.39	175.8	1.299	2.80
	20,427	99.92	168	8.18	144.0	1.162	3.08
Metropolitan	75,789	99.51	560	7.18	185.0	1.334	2.73
Rural							
Nebraska	209,910	98.52	1,381	6.44	192.5	1.254	2.76
	70,076	95.86	446	6.34	202.6	1.289	3.06
Metropolitan	139,834	99.91	935	6.48	187.8	1.238	2.62
Rural							
Kansas	307,796	95.82	1,864	5.96-	199.1	1.179	2.66
	123,748	93.24	704	5.68-	163.9	1.036-	2.55
Metropolitan	184,048	97.63	1,160	6.14	208.2	1.271	2.72
Rural							
South	8,980,101	97.94	57,923	6.46-	194.2	1.255-	2.68-
	5,757,016	96.87	37,239	6.50-	187.7	1.221-	2.79-
Metropolitan	3,223,085	99.91	20,684	6.39-	205.8+	1.315	2.50-
Rural							
South Atlantic	4,668,855	96.31	30,538	6.58-	189.0	1.245-	2.79-
	3,313,125	94.94	22,128	6.71	181.0-	1.218-	2.85
Metropolitan	1,355,730	99.84	8,410	6.25-	210.1+	1.312	2.64-
Rural							
Delaware	70,251	99.94	478	6.90	171.8	1.192	2.92
	44,355	99.95	296	6.78	151.3	1.038	3.13
Metropolitan	25,896	99.94	182	7.10	205.6	1.454	2.58
Rural							
Maryland	436,606	99.49	3,253	7.53+	173.7-	1.310	3.35+
	395,091	99.44	2,946	7.55+	173.3	1.313	3.33+
Metropolitan	41,515	99.95	307	7.39	176.7	1.276	3.58
Rural							
District of Col.	66,196	99.75	483	7.28	196.1	1.435	3.85+
	66,196	99.75	483	7.28	196.1	1.435	3.85+
Metropolitan	0	0.00	0	0.00	0.0	0.000	0.00
Rural							

See notes at end of table.

Table 2. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Virginia	566,135	99.91	3,648	6.52	206.6	1,354	2.83
Metropolitan	355,193	99.87	2,261	6.47	205.0	1,335	2.97
Rural	210,942	99.97	1,387	6.59	209.3	1,386	2.60-
West Virginia	244,259	98.98	1,608	6.59	206.3	1,356	2.60-
Metropolitan	90,704	97.39	640	7.11	196.9	1,402	2.63
Rural	153,555	99.95	968	6.29	212.5	1,329	2.59
North Carolina	689,138	99.93	3,667	5.40-	211.5+	1,145-	2.69-
Metropolitan	346,905	99.89	1,882	5.51-	206.1	1,140-	2.77
Rural	342,233	99.96	1,785	5.29-	217.2+	1,150	2.61-
South Carolina	329,020	99.44	2,196	6.82	201.5	1,373	2.66-
Metropolitan	186,873	99.05	1,174	6.43	194.0	1,249	2.62
Rural	142,147	99.95	1,022	7.33	210.2	1,536	2.71
Georgia	561,716	99.71	3,341	6.03-	203.2	1,226	2.65-
Metropolitan	313,319	99.54	1,844	5.99-	192.5	1,149	2.78
Rural	248,397	99.93	1,497	6.08-	216.1	1,324	2.49-
Florida	1,705,534	90.97	11,864	6.91	172.7-	1,194-	2.73-
Metropolitan	1,514,489	90.04	10,602	6.95	169.4-	1,179-	2.73-
Rural	191,045	99.17	1,262	6.60	200.5	1,315	2.75
East South Central	1,726,272	99.80	11,445	6.63	201.0+	1,330	2.68-
Metropolitan	873,594	99.64	5,712	6.58	197.7	1,298	2.86
Rural	852,678	99.97	5,733	6.67	204.3	1,363	2.49-
Kentucky	422,657	99.70	2,631	6.21-	198.1	1,231	2.70
Metropolitan	183,264	99.37	1,154	6.33	182.1	1,143	2.91
Rural	239,393	99.96	1,477	6.12-	210.2	1,295	2.55-
Tennessee	550,327	99.65	3,766	6.86	194.2	1,326	2.61-
Metropolitan	342,007	99.46	2,396	7.04	191.2	1,346	2.76
Rural	208,320	99.96	1,370	6.56	199.3	1,295	2.38-
Alabama	463,131	99.97	2,840	6.15-	204.1	1,256	2.74
Metropolitan	281,960	99.97	1,721	6.15-	211.1	1,299	2.93
Rural	181,171	99.97	1,119	6.15	193.5	1,189	2.46-
Mississippi	290,157	99.98	2,208	7.54+	212.1	1,599+	2.65-
Metropolitan	66,363	99.96	441	6.68	220.7	1,471	3.00
Rural	223,794	99.98	1,767	7.79+	210.0	1,636+	2.55-

See notes at end of table.

Table 2. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
West South Central							
Metropolitan	2,584,974	99.74	15,940	6.14-	199.2	1.221-	2.49-
Rural	1,570,297	99.59	9,399	6.01-	197.6	1.183-	2.61-
	1,014,677	99.97	6,541	6.35-	201.6	1.277	2.32-
Arkansas							
Metropolitan	321,739	99.96	2,059	6.34	199.0	1.263	2.30-
Rural	100,966	99.98	619	6.12	198.8	1.215	2.52
	220,773	99.95	1,440	6.44	199.1	1.286	2.20-
Louisiana							
Metropolitan	415,968	99.98	3,064	7.35+	203.5	1.480+	2.96
Rural	268,137	99.98	1,970	7.38	209.5	1.528+	3.19+
	147,831	99.99	1,094	7.29	192.9	1.395	2.58
Oklahoma							
Metropolitan	378,716	99.02	2,336	6.11-	212.3	1.290	2.62-
Rural	180,038	98.00	1,059	5.88-	214.5	1.253	2.71
	198,678	99.96	1,277	6.31	210.5	1.322	2.54-
Texas							
Metropolitan	1,468,551	99.81	8,481	5.76-	194.2	1.121-	2.37-
Rural	1,021,156	99.73	5,751	5.65-	190.3	1.078-	2.45-
	447,395	99.97	2,730	6.01-	202.2	1.215	2.18-
West							
Metropolitan	4,539,951	93.08	27,469	6.04-	194.0	1.172-	2.71-
Rural	3,642,859	91.96	22,327	6.13-	193.4	1.185-	2.75-
	897,092	97.88	5,142	5.69-	196.2	1.115-	2.56-
Mountain							
Metropolitan	1,200,638	94.36	6,801	5.67-	194.2	1.097-	2.47-
Rural	720,893	92.10	4,132	5.77-	185.6	1.064-	2.47-
	479,745	97.98	2,669	5.52-	207.3	1.146-	2.47-
Montana							
Metropolitan	97,248	99.90	706	7.20	169.1	1.233	2.55
Rural	21,173	99.90	158	7.47	195.5	1.470	2.62
	76,075	99.91	548	7.13	161.6	1.168	2.52
Idaho							
Metropolitan	109,822	99.77	546	4.93-	203.9	0.994-	2.55
Rural	18,471	99.90	91	4.95	156.4	0.763-	2.18
	91,351	99.74	455	4.93-	213.4	1.039	2.62
Wyoming							
Metropolitan	42,408	99.91	223	5.23-	212.8	1.123	2.20-
Rural	12,265	99.93	66	5.42	149.3	0.823	2.10
	30,143	99.89	157	5.16-	239.7	1.243	2.25
Colorado							
Metropolitan	266,663	94.73	1,445	5.41-	181.2	0.976-	2.53-
Rural	201,737	95.23	1,143	5.68-	179.2	1.011-	2.58-
	64,926	93.22	302	4.58-	188.2	0.873-	2.38-

See notes at end of table.

Table 2. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Mexico	125,371	92.49	694	5.51-	231.9	1.278	2.69
Metropolitan	51,612	85.86	268	5.23-	212.0	1.099	2.81
Rural	73,759	97.76	426	5.71	244.1	1.400	2.60
Arizona	348,748	91.33	2,131	6.15-	190.3	1.161	2.37-
Metropolitan	257,931	89.11	1,620	6.32	184.2	1.155	2.38-
Rural	90,817	98.31	511	5.66-	210.1	1.178	2.37-
Utah	128,579	99.92	569	4.41-	169.8	0.753-	2.26-
Metropolitan	93,319	99.94	422	4.53-	170.2	0.774-	2.32-
Rural	35,260	99.88	147	4.12-	168.6	0.698-	2.11-
Nevada	81,799	86.15	487	6.08	243.3+	1.463	2.58
Metropolitan	64,385	84.73	364	5.79	221.6	1.265	2.51
Rural	17,414	91.83	123	7.15	306.6+	2.187	2.85
Pacific	3,339,313	92.62	20,668	6.18-	193.9	1.198-	2.80-
Metropolitan	2,921,966	91.93	18,195	6.22-	195.2	1.215-	2.82
Rural	417,347	97.77	2,473	5.88-	184.2	1.080-	2.67-
Washington	461,706	92.41	2,645	5.71-	177.5	1.018-	2.64-
Metropolitan	346,977	90.86	1,983	5.71-	180.4	1.034-	2.68
Rural	114,729	97.42	662	5.72-	168.8	0.968-	2.51-
Oregon	303,778	86.84	1,654	5.41-	193.3	1.039-	2.57-
Metropolitan	181,677	80.38	978	5.35-	190.3	1.013-	2.55-
Rural	122,101	98.65	676	5.51-	197.6	1.079	2.60
California	2,477,248	93.71	15,731	6.34-	198.0	1.257	2.85
Metropolitan	2,330,007	93.36	14,815	6.35-	198.4	1.262	2.86
Rural	147,241	99.57	916	6.20	191.3	1.183	2.68
Alaska	16,348	99.78	110	6.84	148.7	1.009	3.00
Metropolitan	5,625	99.75	36	6.68	85.2	0.574	1.84
Rural	10,723	99.80	74	6.92	179.7	1.223	3.57
Hawaii	80,233	83.64	528	6.49	164.5	1.071	2.86
Metropolitan	57,680	83.31	383	6.61	169.5	1.127	2.75
Rural	22,553	84.47	145	6.21	151.2	0.932	3.17

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate ($p < .01$).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	180,592	6.76	190.9	1.291	2.89
Northeast	6,276,897	98.04	48,753	7.79+	185.0-	1.441+	3.29+
New England	1,569,313	96.20	12,431	7.93+	181.7	1.442+	3.30+
Maine	153,209	99.88	1,167	7.56	183.8	1.389	3.27+
Bangor, ME	16,035	99.87	113	7.01	193.8	1.361	3.48
Lewiston-Auburn, ME	13,464	99.93	94	6.97	227.0	1.554	2.45
Portland, ME	52,846	99.89	365	6.89	172.4	1.188	3.05
New Hampshire	114,752	98.98	956	8.33+	220.5	1.851+	3.48+
Manchester, NH	44,397	97.91	375	8.46+	236.5	2.010+	3.62+
Portsmouth, NH	29,738	99.52	267	9.02+	195.4	1.764	3.22
Vermont	62,781	99.82	438	6.93	220.6	1.534	2.99
Burlington, VT	10,422	99.91	78	7.48	251.5	1.924	3.61
Massachusetts	709,478	93.75	6,050	8.53+	187.5	1.598+	3.38+
Boston, MA	429,794	95.67	3,848	8.94+	184.7	1.653+	3.45+
New Bedford, MA	65,540	98.67	537	8.26+	169.5	1.405	3.22
Pittsfield, MA	20,281	91.00	149	7.35	152.6	1.132	2.90
Springfield, MA	72,225	92.57	536	7.46	233.2	1.740+	3.47+
Worcester, MA	71,185	79.42	570	8.01	205.9	1.635	3.20
Rhode Island	132,332	97.59	1,045	7.93+	144.3-	1.155	3.37+
Providence, RI	132,332	97.59	1,045	7.93+	144.3-	1.155	3.37+
Connecticut	396,761	97.56	2,775	7.02	162.9-	1.143-	3.13+
Bridgeport, CT	96,911	96.63	722	7.49	152.7-	1.154	3.35
Hartford, CT	157,139	99.16	1,109	7.08	171.4	1.202	2.91
New Haven, CT	102,964	95.31	660	6.44	164.5	1.054	3.14
New London, CT	27,613	99.70	209	7.63	149.4	1.173	3.57

See notes at end of table.

Table 3. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As Percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Middle Atlantic	4,707,584	98.68	36,322	7.74+	186.1	1.440+	3.29+
New York	2,143,249	98.98	16,620	7.73+	184.2	1.428+	3.38+
Albany, NY	115,122	98.78	830	7.22	193.1	1.399	3.41+
Binghamton, NY	35,576	99.96	236	6.65	155.0	1.043	3.62
Buffalo, NY	134,451	98.66	954	7.19	193.9	1.387	3.36+
Elmira, NY	13,699	99.94	97	7.10	145.0	1.025	3.05
Glens Falls, NY	15,222	99.63	118	7.71	110.2-	0.849	2.74
Nassau-Suffolk, NY	297,143	99.88	2,446	8.30+	191.1	1.586+	3.76+
New York, NY	997,473	99.58	8,146	8.09+	180.7	1.469+	3.34+
Niagara Falls, NY	30,841	99.69	282	9.28+	212.4	1.955+	3.49
Orange County, NY	30,488	99.89	251	8.22	198.8	1.637	3.88+
Poughkeepsie, NY	27,864	98.47	202	7.21	191.0	1.384	3.64
Rochester, NY	102,542	88.80	615	5.99	169.3	1.029-	3.01
Syracuse, NY	75,217	99.92	466	6.23	185.0	1.140	3.12
Utica-Rome, NY	46,733	99.90	375	8.08	183.4	1.467	3.57
New Jersey	916,155	97.84	7,288	8.02+	191.7	1.538+	3.31+
Atlantic City, NJ	46,406	97.93	401	8.61+	203.4	1.753	3.61+
Bergen-Passaic, NJ	171,246	99.45	1,326	7.79+	188.2	1.473	3.24+
Jersey City, NJ	64,069	99.25	513	8.11	187.0	1.521	3.19
Middlesex, NJ	91,009	94.70	700	7.87	210.4	1.640+	3.37+
Monmouth-Ocean, NJ	154,643	99.57	1,275	8.25+	195.3	1.607+	3.38+
Newark, NJ	211,511	99.40	1,722	8.19+	183.5	1.509	3.39+
Trenton, NJ	38,499	97.14	335	8.81+	174.8	1.533	3.24
Vineland, NJ	16,382	96.17	127	7.83	251.9	1.922	3.81
Pennsylvania	1,648,180	98.75	12,414	7.59+	185.4	1.403+	3.15+
Allentown, PA-NJ	94,668	99.09	689	7.36	173.5	1.268	3.07
Altoona, PA	20,692	99.99	142	6.88	200.1	1.355	3.16
Beaver County, PA	27,562	99.95	218	8.07	174.8	1.420	2.77
Erie, PA	35,244	99.92	243	7.00	156.9	1.102	3.02
Harrisburg, PA	72,929	99.95	477	6.60	188.1	1.236	3.05
Johnstown, PA	40,260	99.97	266	6.70	182.9	1.218	3.17
Lancaster, PA	48,045	99.93	314	6.49	176.2	1.129	2.99
Philadelphia PA-NJ	569,054	95.81	4,550	8.06+	182.6	1.472+	3.27+
Pittsburgh, PA	323,494	99.06	2,567	8.05+	203.8	1.636+	3.38+
Reading, PA	48,476	99.88	311	6.40	179.6	1.132	2.72
Scranton, PA	122,888	99.95	904	7.47	173.0	1.292	3.13
Sharon, PA	19,009	99.97	137	7.25	266.2	1.911	3.32
State College, PA	10,032	99.97	86	8.60	240.2	2.004	3.28
Williamsport, PA	16,877	99.98	109	6.45	144.5	0.946	2.17
York, PA	48,541	99.96	315	6.49	165.4	1.072	3.23

See notes at end of table.

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
North Central	6,901,975	96.39	46,447	6.71	191.4	1.281	2.92
East North Central	4,745,430	97.76	32,457	6.85	190.8	1.305	2.99+
Ohio	1,263,869	99.46	8,855	7.05	186.5	1.313	3.03+
Akron, OH	75,615	99.90	530	7.07	211.8	1.485	3.39
Canton, OH	51,895	99.97	336	6.53	168.6	1.091	2.94
Cincinnati, OH-KY-IN	159,407	99.96	1,297	8.16+	204.5	1.674+	3.25
Cleveland, OH	242,585	99.71	1,858	7.76+	201.5	1.563+	3.36+
Columbus, OH	121,377	99.73	732	6.08	166.9	1.017-	2.90
Dayton, OH	103,547	99.95	614	5.98	184.1	1.106	2.81
Hamilton, OH	26,009	99.95	164	6.34	152.0	0.969	3.01
Lima, OH	19,579	99.97	151	7.72	133.3	1.023	3.30
Lorain-Elyria, OH	27,340	99.85	188	6.98	208.3	1.464	3.02
Mansfield, OH	15,230	99.96	112	7.42	170.2	1.268	3.14
Steubenville, OH-WV	21,934	98.57	160	7.41	214.1	1.586	3.25
Toledo, OH	70,660	99.95	521	7.40	158.4	1.167	2.79
Youngstown, OH	69,319	99.95	462	6.79	194.4	1.316	3.18
Indiana	623,062	97.86	3,810	6.13-	196.0	1.199	2.90
Anderson, IN	17,198	99.83	112	6.57	250.0	1.590	2.59
Bloomington, IN	7,913	99.87	52	6.57	278.5	1.894	2.16
Elkhart-Goshen, IN	15,647	99.92	99	6.33	191.9	1.210	3.49
Evansville, IN-KY	34,434	95.72	203	5.89	153.5	0.928	3.04
Fort Wayne, IN	37,565	97.77	219	5.83	201.6	1.195	3.03
Gary-Hammond, IN	61,160	97.01	372	6.19	206.8	1.295	2.84
Indianapolis, IN	118,407	93.81	761	6.46	219.9	1.413	2.87
Kokomo, IN	10,842	99.94	56	5.21	252.9	1.307	2.73
Lafayette, IN	11,228	99.92	76	6.76	217.0	1.418	2.93
Muncie, IN	13,759	99.91	69	5.06	116.4	0.590-	3.09
South Bend, IN	33,170	99.93	221	6.67	180.0	1.178	2.90
Terre Haute, IN	19,585	99.89	134	6.87	205.1	1.385	3.18
Illinois	1,265,011	95.90	8,936	7.07+	192.4	1.359	3.15+
Aurora-Elgin, IL	30,946	98.68	217	7.01	213.2	1.483	3.29
Bloomington, IL	12,672	99.94	97	7.60	266.2	2.027	3.30
Champaign, IL	13,391	99.91	93	6.97	174.9	1.275	3.34
Chicago, IL	608,135	92.94	4,371	7.25+	193.3	1.399	3.36+
Decatur, IL	15,992	99.97	121	7.56	174.9	1.310	2.26
Joliet, IL	28,047	97.18	207	7.44	200.0	1.480	3.02
Kankakee, IL	12,020	99.94	86	7.16	216.6	1.583	3.31
Lake County, IL	36,099	96.52	253	7.09	130.8-	0.931	3.25
Peoria, IL	43,549	99.93	325	7.44	203.8	1.511	3.36
Rockford, IL	28,351	88.93	204	7.20	211.1	1.516	3.12
Springfield, IL	24,799	99.96	181	7.32	198.2	1.455	3.50

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Table 3. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Michigan	982,444	96.86	6,793	6.95	186.0	1.291	2.80
Ann Arbor, MI	17,760	95.12	93	5.25	199.8	1.071	3.95
Battle Creek, MI	16,831	99.89	108	6.42	171.4	1.070	3.04
Benton Harbor, MI	21,618	99.88	147	6.82	196.5	1.348	2.75
Detroit, MI	448,826	96.43	3,355	7.56+	186.7	1.406	2.97
Flint, MI	43,084	91.01	271	6.35	177.3	1.127	2.45
Grand Rapids, MI	64,091	95.42	420	6.53	186.9	1.208	2.72
Jackson, MI	17,046	99.82	127	7.49	184.5	1.361	2.56
Kalamazoo, MI	21,512	99.85	142	6.63	239.0	1.593	2.86
Lansing, MI	32,460	90.23	167	5.16-	196.2	1.018	2.23-
Muskegon, MI	18,957	98.06	109	5.80	176.7	1.017	2.43
Saginaw, MI	42,162	96.18	278	6.65	171.6	1.131	2.80
Wisconsin	611,044	99.60	4,063	6.58	199.5	1.316	2.94
Appleton, WI	34,483	99.96	204	5.86	177.6	1.058	3.04
Eau Claire, WI	16,955	99.94	122	7.10	193.7	1.384	2.67
Green Bay, WI	19,185	99.97	110	5.72	152.1	0.884	2.61
Janesville, WI	16,529	99.85	113	6.77	129.4	0.895	2.67
Kenosha, WI	14,291	99.91	90	6.29	177.7	1.117	2.89
LaCrosse, WI	11,858	99.91	89	7.44	253.5	1.910	3.73
Madison, WI	30,776	99.74	181	5.85	137.2	0.804-	2.28
Milwaukee, WI	166,813	99.21	1,160	6.94	230.1+	1.599+	3.13
Racine, WI	20,503	99.90	135	6.58	214.9	1.411	2.20
Sheboygan, WI	14,461	99.98	96	6.59	210.3	1.366	3.87
Wausau, WI	12,945	99.95	78	5.98	240.8	1.451	3.47
West North Central	2,156,545	93.50	13,990	6.38-	192.8	1.227-	2.77-
Minnesota	397,258	77.30	2,543	6.29	209.0	1.298	2.84
Duluth, MN-WI	29,977	76.74	228	7.62	242.6	1.865	3.51
Minneapolis, MN-WI	141,769	64.45	896	6.28	229.9+	1.422	2.98
Rochester, MN	9,393	99.67	56	5.89	106.8	0.626-	2.34
St. Cloud, MN	12,248	70.92	63	5.05	141.3	0.706	2.59
Iowa	404,057	99.37	2,556	6.22-	176.2	1.097-	2.88
Cedar Rapids, IA	19,323	99.94	125	6.44	103.4-	0.667-	2.43
Davenport, IA-IL	44,646	99.94	364	8.15	196.3	1.565	3.18
Des Moines, IA	40,067	94.50	240	5.99	192.7	1.147	3.30
Dubuque, IA	11,460	99.95	64	5.58	173.6	0.958	3.07
Iowa City, IA	6,240	99.90	40	6.34	125.0	0.791	2.97
Sioux City, IA-NE	15,951	99.96	109	6.74	142.5	0.979	2.59
Waterloo, IA	19,521	99.96	108	5.50	194.2	1.065	2.44

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	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Missouri	655,875	98.17	4,313	6.51	191.3	1,242	2.70-
Columbia, MO	8,560	99.98	50	5.81	145.8	0.810	2.34
Joplin, MO	19,275	99.95	120	6.22	209.0	1,297	2.62
Kansas City, MO-KS	154,919	95.72	1,022	6.58	194.3	1,278	2.54-
St. Joseph, MO	13,630	99.97	93	6.77	169.0	1,157	2.29
St. Louis, MO-IL	283,167	97.43	1,997	7.04	194.8	1,368	3.28+
Springfield, MO	27,676	99.94	161	5.79	160.4	0.933	2.26
North Dakota	85,433	98.28	605	6.90	207.2	1,416	2.85
Bismarck, ND	8,160	95.13	62	7.52	208.9	1,575	2.67
Fargo, ND-MN	14,138	96.57	111	7.69	189.0	1,433	3.00
Grand Forks, ND	5,687	99.95	39	6.72	238.6	1,534	2.61
South Dakota	96,216	99.59	728	7.39	175.8	1,299	2.80
Rapid City, SD	7,152	99.89	56	7.80	141.2	1,115	2.39
Sioux Falls, SD	13,275	99.93	112	8.37	145.4	1,188	3.44
Nebraska	209,910	98.52	1,381	6.44	192.5	1,254	2.76
Lincoln, NE	20,994	98.50	116	5.47	215.5	1,170	2.68
Omaha, NE-IA	57,509	95.39	379	6.57	186.4	1,227	2.92
Kansas	307,796	95.82	1,864	5.96-	199.1	1,179	2.66
Lawrence, KS	4,965	87.78	28	5.56	179.1	0.986	2.13
Topeka, KS	18,983	97.26	96	4.99	105.3-	0.514-	2.61
Wichita, KS	45,844	88.57	246	5.36-	191.0	1,022	2.41
South	8,980,101	97.94	57,923	6.46-	194.2	1,255-	2.68-
South Atlantic	4,668,855	96.31	30,538	6.58-	189.0	1,245-	2.79-
Delaware	70,251	99.94	478	6.90	171.8	1,192	2.92
Wilmington, DE-NJ-MD	58,114	99.65	387	6.75	151.4	1,020	2.89
Maryland	436,606	99.49	3,253	7.53+	173.7-	1,310	3.35+
Baltimore, MD	244,878	99.90	1,961	8.11+	173.2	1,402	3.59+
Cumberland, MD-WV	17,051	99.95	111	6.56	196.6	1,305	2.89
Hagerstown, MD	14,522	99.95	88	6.10	193.9	1,249	2.71
District of Col.	66,196	99.75	483	7.28	196.1	1,435	3.85+
Washington, DC-MD-VA	261,121	99.05	1,695	6.58	184.1	1,221	3.24+

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	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	3,648	6.52	206.6	1,354	2.83
Charlottesville, VA	12,020	99.92	55	4.57	216.2	0.997	2.33
Danville, VA	15,532	99.99	86	5.61	232.8	1.308	2.38
Lynchburg, VA	18,110	99.99	128	7.09	167.8	1.163	2.40
Norfolk, VA	102,601	99.96	730	7.28	216.1	1.603	3.15
Richmond, VA	85,698	99.98	572	6.77	203.1	1.384	3.12
Roanoke, VA	30,622	99.98	180	5.88	203.2	1.203	2.63
West Virginia	244,259	98.98	1,608	6.59	206.3	1,356	2.60-
Charleston, WV	34,215	99.96	218	6.44	170.2	1.098	2.19-
Huntington, WV-KY-OH	40,891	99.95	250	6.12	227.8	1.390	2.57
Parkersburg, WV-OH	19,888	99.94	150	7.52	200.4	1.498	2.52
Wheeling, WV-OH	22,016	82.51	172	7.89	214.4	1.696	2.63
North Carolina	689,138	99.93	3,667	5.40-	211.5+	1,145-	2.69-
Asheville, NC	24,469	99.92	130	5.30	193.0	1.017	2.42
Burlington, NC	14,505	99.99	67	4.71	153.2	0.710-	2.70
Charlotte, NC	109,337	99.79	597	5.56-	209.0	1.168	2.91
Fayetteville, NC	13,388	99.98	66	5.09	201.2	1.022	2.19
Greensboro, NC	99,387	99.97	541	5.52-	206.8	1.151	2.67
Hickory, NC	23,392	99.97	125	5.46	227.7	1.237	2.36
Jacksonville, NC	5,134	99.86	36	7.27	202.6	1.446	2.44
Raleigh-Durham, NC	56,484	99.86	318	5.71	214.5	1.229	3.03
Wilmington, NC	12,634	99.97	64	5.21	185.1	0.992	3.50
South Carolina	329,020	99.44	2,196	6.82	201.5	1,373	2.66-
Anderson, SC	16,583	99.70	103	6.33	223.1	1.430	2.81
Charleston, SC	34,246	98.90	241	7.21	174.8	1.245	2.91
Columbia, SC	35,361	99.98	209	6.06	218.0	1.321	3.00
Florence, SC	11,195	99.96	87	8.02	186.2	1.495	2.17
Greenville, SC	65,893	98.01	384	5.95	183.0	1.097	2.22-
Georgia	561,716	99.71	3,341	6.03-	203.2	1,226	2.65-
Albany, GA	9,292	99.92	52	5.72	176.5	1.003	3.48
Athens, GA	13,510	99.96	69	5.16	205.9	1.053	2.56
Atlanta, GA	189,539	99.27	1,153	6.19	194.1	1.196	2.75
Augusta, GA-SC	32,938	99.93	209	6.48	190.9	1.225	2.65
Columbus, GA-AL	22,847	99.96	106	4.75-	238.6	1.137	2.68
Macon, GA	25,929	99.97	148	5.85	179.3	1.041	2.75
Savannah, GA	25,338	99.94	145	5.82	166.2	0.973	3.23

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	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Florida	1,705,534	90.97	11,864	6.91	172.7-	1,194-	2.73-
Bradenton, FL	42,906	99.68	303	6.93	219.5	1,518	2.66
Daytona Beach, FL	62,616	92.90	465	7.37	187.1	1,359	2.92
Fort Lauderdale, FL	181,839	81.09	1,414	7.63+	167.2	1,280	2.81
Fort Myers, FL	61,428	99.65	414	6.75	154.6	1,052	2.58
Fort Pierce, FL	41,198	99.28	279	6.81	209.9	1,454	2.83
FT. Walton Beach, FL	10,169	99.88	41	4.14-	201.0	0.826	2.59
Gainesville, FL	16,758	99.58	99	5.92	176.5	1,019	2.47
Jacksonville, FL	80,895	98.22	472	5.91	148.3-	0.869-	3.12
Lakeland, FL	55,495	99.56	318	5.73	165.6	0.941-	2.32-
Melbourne, FL	46,501	99.72	376	8.20	151.5	1,239	2.72
Miami-Hialeah, FL	168,502	79.57	1,324	7.66+	161.9-	1,246	2.80
Naples, FL	23,433	99.75	170	7.26	182.8	1,336	2.71
Ocala, FL	31,367	99.50	196	6.33	235.2	1,475	2.76
Orlando, FL	90,604	98.55	575	6.40	150.0-	0.961-	2.81
Panama City, FL	11,817	99.70	78	6.71	204.2	1,394	2.66
Pensacola, FL	29,972	99.89	186	6.32	166.6	1,064	2.84
Sarasota, FL	77,895	99.81	548	6.92	181.8	1,269	2.98
Tallahassee, FL	17,414	97.85	106	6.12	228.1	1,391	3.14
Tampa, FL	323,951	87.05	2,212	6.76	167.5-	1,132-	2.59-
West Palm Beach, FL	139,729	85.22	1,026	7.26	155.5-	1,134	2.59
East South Central	1,726,272	99.80	11,445	6.63	201.0+	1,330	2.68-
Kentucky	422,657	99.70	2,631	6.21-	198.1	1,231	2.70
Lexington, KY	31,008	98.87	164	5.31	189.7	1,003	2.87
Louisville, KY-IN	107,485	99.20	693	6.49	177.0	1,138	3.07
Owensboro, KY	10,319	99.96	66	6.46	139.6	0.884	2.50
Tennessee	550,327	99.65	3,766	6.86	194.2	1,326	2.61-
Chattanooga, TN-GA	50,061	99.97	309	6.22	187.8	1,172	2.56
Clarksville, TN-KY	12,541	99.91	77	6.12	244.0	1,504	2.84
Jackson, TN	10,064	99.95	77	7.57	204.7	1,567	2.12
Johnson City, TN-VA	55,068	99.97	316	5.79	187.9	1,067	2.27-
Knoxville, TN	70,970	99.96	483	6.87	199.2	1,358	2.44
Memphis, TN-AR-MS	88,836	98.06	743	8.39+	206.9	1,738+	3.41+
Nashville, TN	92,994	99.96	623	6.72	175.6	1,187	2.72

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	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Alabama	463,131	99.97	2,840	6.15-	204.1	1.256	2.74
Annisston, AL	13,124	99.97	80	6.20	238.7	1.487	3.10
Birmingham, AL	108,546	99.98	647	5.98	210.6	1.259	2.84
Dothan, AL	12,690	99.94	73	5.80	248.7	1.437	2.54
Florence, AL	16,687	99.97	104	6.28	245.6	1.577	2.85
Gadsden, AL	14,295	99.97	98	6.98	175.5	1.226	3.09
Huntsville, AL	17,137	99.96	107	6.35	229.3	1.440	3.30
Mobile, AL	50,513	99.96	323	6.45	218.7	1.409	3.15
Montgomery, AL	29,832	99.97	193	6.52	149.8	0.983	2.99
Tuscaloosa, AL	13,604	99.99	74	5.45	213.8	1.176	2.61
Mississippi	290,157	99.98	2,208	7.54+	212.1	1.599+	2.65-
Biloxi-Gulfport, MS	18,079	99.97	117	6.55	273.0	1.749	3.51
Jackson, MS	35,305	99.98	251	7.09	175.0	1.236	2.87
Pascagoula, MS	8,556	99.88	48	5.73	284.0	1.694	2.43
West South Central	2,584,974	99.74	15,940	6.14-	199.2	1.221-	2.49-
Arkansas	321,739	99.96	2,059	6.34	199.0	1.263	2.30-
Fayetteville, AR	11,803	99.95	90	7.57	179.8	1.341	3.66
Fort Smith, AR-OK	21,413	99.98	131	6.11	209.3	1.262	2.40
Little Rock, AR	50,966	99.99	309	6.09	212.0	1.262	2.37
Pine Bluff, AR	11,012	99.98	57	5.10	203.9	1.062	2.66
Louisiana	415,968	99.98	3,064	7.35+	203.5	1.480+	2.96
Alexandria, LA	13,819	99.96	93	6.70	242.6	1.578	2.66
Baton Rouge, LA	39,583	99.97	319	8.15	178.4	1.437	3.52
Houma-Thibodaux, LA	13,501	100.00	76	5.74	226.2	1.299	2.21
Lafayette, LA	14,620	99.99	98	6.75	248.1	1.662	3.28
Lake Charles, LA	16,436	99.98	129	7.93	231.9	1.862	2.49
Monroe, LA	14,648	99.99	93	6.31	245.6	1.482	2.39
New Orleans, LA	118,708	99.98	916	7.76+	194.0	1.489	3.35+
Shreveport, LA	36,822	99.98	246	6.64	248.8	1.636	3.48
Oklahoma	378,716	99.02	2,336	6.11-	212.3	1.290	2.62-
Enid, OK	8,215	99.94	48	5.75	176.6	1.069	2.93
Lawton, OK	8,221	99.99	41	5.05	149.6	0.743	2.08
Oklahoma City, OK	88,646	97.45	542	6.10	208.7	1.267	2.77
Tulsa, OK	71,032	98.13	405	5.72	230.0	1.300	2.66

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Texas	1,468,551	99.81	8,481	5.76-	194.2	1.121-	2.37-
Abilene, TX	13,100	99.96	77	5.85	231.1	1.360	1.94
Amarillo, TX	19,063	99.97	107	5.65	237.2	1.379	2.85
Austin, TX	47,578	99.95	284	5.96	226.6	1.387	2.74
Beaumont, TX	42,323	99.98	270	6.38	165.9	1.068	2.65
Brzoria, TX	12,486	99.78	72	5.86	213.4	1.237	2.31
Brownsville, TX	20,169	99.86	123	6.02	266.8	1.612	2.20
Bryan, TX	6,955	99.96	49	7.00	283.2	1.994	2.61
Corpus Christi, TX	28,417	95.56	152	5.37	182.2	0.958	2.46
Dallas, TX	172,118	99.95	892	5.23-	166.3	0.860-	2.38-
El Paso, TX	37,292	99.94	191	5.14-	225.9	1.164	2.62
Fort Worth, TX	97,947	99.96	480	4.94-	158.6	0.787-	2.24-
Galveston, TX	19,376	99.94	122	6.35	182.4	1.155	2.63
Houston, TX	187,992	99.85	1,163	6.26	169.0	1.062-	2.66
Killeen-Temple, TX	17,182	99.97	96	5.57	147.1	0.812	1.59-
Laredo, TX	8,421	99.99	44	5.13	230.2	1.153	2.36
Longview, TX	20,547	99.98	114	5.52	277.6	1.495	2.32
Lubbock, TX	18,957	99.97	93	4.91	272.7	1.324	1.97-
McAllen, TX	27,402	99.82	128	4.61-	212.5	0.972	1.76-
Midland, TX	7,362	99.96	35	4.81	302.1	1.394	2.25
Odessa, TX	9,207	99.99	52	5.75	224.0	1.348	2.95
San Angelo, TX	11,213	95.99	67	5.93	135.2	0.795	1.58-
San Antonio, TX	107,989	99.28	615	5.71-	204.3	1.181	2.79
Sherman-Denison, TX	14,532	99.99	80	5.47	227.5	1.228	1.81-
Texasarkana, TX-AR	15,315	99.99	94	6.09	170.5	1.028	1.68-
Tyler, TX	18,223	99.98	117	6.43	175.7	1.103	2.42
Victoria, TX	6,871	99.97	33	4.81	317.3	1.607	1.98
Waco, TX	23,624	99.99	149	6.27	135.0	0.839	2.52
Wichita Falls, TX	14,462	99.97	82	5.65	213.4	1.237	3.07
West	4,539,951	93.08	27,469	6.04-	194.0	1.172-	2.71-
Mountain	1,200,638	94.36	6,801	5.67-	194.2	1.097-	2.47-
Montana	97,248	99.90	706	7.20	169.1	1.233	2.55
Billings, MT	12,097	99.88	79	6.55	206.0	1.333	2.11
Great Falls, MT	9,076	99.91	79	8.69	185.5	1.651	3.30
Idaho	109,822	99.77	546	4.93-	203.9	0.994-	2.55
Boise City, ID	18,471	99.90	91	4.95	156.4	0.763-	2.18
Wyoming	42,408	99.91	223	5.23-	212.8	1.123	2.20-
Casper, WY	5,379	99.91	29	5.45	104.4	0.566	1.66
Cheyenne, WY	6,886	99.96	37	5.39	183.0	1.021	2.44

See notes at end of table.

Table 3. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1996

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Colorado	266,663	94.73	1,445	5.41-	181.2	0.976-	2.53-
Boulder-Longmont, CO	15,143	97.96	79	5.20	166.1	0.852	2.70
Colorado Springs, CO	24,899	95.03	143	5.82	162.8	0.944	2.43
Denver, CO	119,624	94.10	704	5.92	175.3	1.027-	2.67
Fort Collins, CO	15,089	99.71	80	5.27	198.9	1.050	2.72
Greeley, CO	11,610	99.62	55	4.69	199.1	0.932	2.48
Pueblo, CO	15,372	94.43	82	5.32	220.6	1.165	1.98-
New Mexico	125,371	92.49	694	5.51-	231.9	1.278	2.69
Albuquerque, NM	33,783	81.01	169	5.07-	235.2	1.176	2.75
Las Cruces, NM	9,375	99.94	53	5.65	174.0	0.964	2.47
Santa Fe, NM	8,454	93.66	46	5.44	171.6	0.946	3.42
Arizona	348,748	91.33	2,131	6.15-	190.3	1.161	2.37-
Phoenix, AZ	187,381	86.74	1,243	6.68	178.1	1.178	2.36-
Tucson, AZ	70,550	96.06	377	5.35-	203.9	1.096	2.42-
Utah	128,579	99.92	569	4.41-	169.8	0.753-	2.26-
Provo-Orem, UT	16,076	99.93	79	4.90	235.2	1.117	2.30
Salt Lake City, UT	77,243	99.94	343	4.45-	155.9	0.702-	2.32-
Nevada	81,739	86.15	487	6.08	243.3+	1.463	2.58
Las Vegas, NV	45,252	82.98	266	6.04	246.5	1.462	2.45
Reno, NV	19,133	89.17	98	5.21	155.6	0.808	2.66
Pacific	3,339,313	92.62	20,668	6.18-	193.9	1.198-	2.80-
Washington	461,706	92.41	2,645	5.71-	177.5	1.018-	2.64-
Bellingham, WA	13,629	99.51	76	5.51	157.3	0.865	2.90
Bremerton, WA	15,439	96.59	92	5.96	130.8	0.778	2.34
Olympia, WA	14,254	90.98	81	5.67	154.5	0.910	2.75
Richland, WA	12,559	99.85	56	4.51	209.9	0.979	2.75
Seattle, WA	159,828	86.57	981	6.14	191.4	1.184	2.91
Spokane, WA	41,237	94.51	218	5.26-	195.4	1.032	2.34
Tacoma, WA	50,245	97.24	262	5.22-	165.5	0.859-	2.42
Vancouver, WA	17,048	80.32	81	4.78	114.4	0.530-	2.48
Yakima, WA	22,738	99.74	136	5.91	193.5	1.125	2.26
Oregon	303,778	86.84	1,654	5.41-	193.3	1.039-	2.57-
Eugene, OR	28,947	88.67	143	4.93-	203.8	1.035	2.98
Medford, OR	20,326	99.78	107	5.24	210.8	1.079	2.11
Portland, OR	99,155	72.79	541	5.43-	194.6	1.048	2.59
Salem, OR	33,249	90.39	187	5.54	155.8	0.852-	2.28

See notes at end of table.

Table 3. Malignant neoplasms of digestive organs and peritoneum: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1985

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
California	2,477,248	93.71	15,731	6.34-	198.0	1.257	2.85
Anaheim-Santa Ana, CA	167,171	89.39	1,043	6.26	196.7	1.236	2.82
Bakersfield, CA	44,969	99.76	300	6.68	196.9	1.322	2.76
Chico, CA	27,102	99.09	185	6.80	221.8	1.508	2.71
Fresno, CA	58,425	99.90	322	5.47-	203.7	1.115	2.77
Los Angeles, CA	677,939	91.40	4,620	6.82	205.1	1.398	2.93
Merced, CA	13,462	99.86	72	5.36	181.7	0.972	2.70
Modesto, CA	33,619	98.80	196	5.83	175.7	1.042	2.74
Oakland, CA	188,258	99.08	1,144	6.09	190.4	1.176	2.93
Oxnard-Ventura, CA	49,488	93.74	326	6.60	211.1	1.381	2.89
Redding, CA	17,796	99.73	119	6.74	191.6	1.258	2.64
Riverside, CA	203,246	90.92	1,192	5.86-	213.7	1.250	2.88
Sacramento, CA	120,273	91.81	778	6.51	193.0	1.253	2.95
Salinas, CA	29,131	99.86	166	5.67	207.7	1.195	2.84
San Diego, CA	205,402	91.35	1,223	5.96-	181.9	1.087-	2.59-
San Francisco, CA	163,753	89.02	1,159	7.01	188.4	1.322	2.93
San Jose, CA	105,258	99.50	578	5.52-	176.3	0.976-	2.76
Santa Barbara, CA	38,021	99.70	243	6.31	228.5	1.446	2.76
Santa Cruz, CA	24,640	99.77	129	5.13	177.5	0.905	2.80
Santa Rosa, CA	44,775	99.49	288	6.37	165.5	1.035	2.86
Santa Rosa, CA	40,855	91.54	286	6.91	188.9	1.295	3.01
Stockton, CA	35,778	98.59	198	5.52	228.1	1.250	3.66
Vallejo, CA	28,811	99.91	176	6.04	228.6	1.369	2.62
Visalia, CA	28,811	99.91	176	6.04	228.6	1.369	2.62
Yuba City, CA	11,835	99.35	72	6.08	234.6	1.357	2.20
Alaska	16,348	99.78	110	6.84	148.7	1.009	3.00
Anchorage, AK	5,625	99.75	36	6.68	85.2	0.574	1.84
Hawaii	80,233	83.64	528	6.49	164.5	1.071	2.86
Honolulu, HI	57,680	83.31	383	6.61	169.5	1.127	2.75

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Malignant neoplasms of trachea, bronchus, and lung

This volume contains data on hospitalization and mortality for all cancer patients and for the two leading causes of death from cancer: cancer of the digestive organs and peritoneum and cancer of the trachea, bronchus, and lung. In 1986, the overall death rate from cancer for the population aged 65 years or over was 10.56 deaths per 1,000 persons. Cancer of the trachea, bronchus, and lung accounted for approximately 25 percent of all cancer deaths among the Medicare aged. The death rate from this type of cancer for the general population was 2.66 deaths per 1,000 aged persons (Table 1).

In 1986, cancer of the trachea, bronchus, and lung accounted for 103,766 hospital discharges for Medicare beneficiaries 65 years of age or over, for a rate of 3.88 discharges per 1,000 enrollees. The 30-day post-admission mortality rate was 281.0 deaths per 1,000 discharges, or more than 28 percent.

Age and sex patterns

Both Medicare discharge and general aged population mortality rates for cancer of the trachea, bronchus, and lung were much higher for men than for women. For example, among enrollees 75–84 years of age, the discharge rate for men was more than three times the rate for women (6.85 discharges per 1,000 men versus 2.11

discharges per 1,000 women). Similarly, the population mortality rate for men that age was more than three times the rate for women (5.45 deaths per 1,000 men versus 1.41 per 1,000 women). These figures likely reflect, in large part, differences in smoking history between men and women in that age group.

Among men, the discharge rate was highest in the age group 75–84 years; among women, it was highest in the age group 65–74. Discharge rates were substantially lower in the age group 85 years or over for both men and women. For men, deaths per 1,000 persons were highest (5.45 per 1,000) among those aged 75–84 years. Among women, population mortality was similar in the age groups 65–74 years and 75–84 years (1.48 and 1.41 per 1,000, respectively) and lowest for those 85 years or over (1.09 per 1,000). Thirty-day post-admission mortality per 1,000 discharges increased with age for both men and women.

Patterns by race

Discharge rates for cancer of the trachea, bronchus, and lung ranged from 10 to 27 percent higher for black men than for white men across age groups. Discharge rates for white and black women were similar across age groups.

Population mortality was 29 percent higher for black men than for white men in the age group 65–74 years (5.18 deaths per 1,000 persons versus 4.01 deaths per 1,000); for men 85 years or over, the rate was lower

for black men than for white men (4.32 versus 4.52). Mortality was higher for white women than black women in all age groups.

Variations by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region, division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan statistical area (MSA) level are shown in Table 3. Figures 1–3 were derived from the data in these tables.

Discharge rates

The States with the highest discharge rates for cancer of the trachea, bronchus, and lung were in the Southeast, with a few exceptions (Figure 1). Louisiana had the highest rate among all States, with 5.65 discharges per 1,000 enrollees. The lowest rates of discharge tended to be in the Mountain and West North Central Divisions, with the lowest discharge rate occurring in Utah (1.60 discharges per 1,000 enrollees). As can be seen from the boxplots in Figure 2, the East South Central Division had the highest median rates.

Discharge rates varied considerably more among MSAs for this type of cancer than for all cancers combined or cancer of the digestive organs and peritoneum. The coefficient of variation for cancer of the trachea, bronchus, and lung was 0.27,

NOTE: Malignant neoplasms of trachea, bronchus, and lung is ICD-9-CM codes 162, 197.0*, 197.3.

whereas the coefficients of variation for all cancers combined and cancer of the digestive organs and peritoneum were only 0.13 and 0.15, respectively.

Population death rates

As with other cancers, there is a clear regional pattern in population mortality from cancer of the trachea, bronchus, and lung. The highest mortality rates were primarily in Eastern and Southeastern States (Figure 3), although the highest mortality rate (3.34 deaths per 1,000 persons) occurred in Nevada. The lowest rates occurred in the West and North Central Regions of the Nation, with Utah again having the lowest mortality rate (1.32 deaths per 1,000 persons). Population mortality generally followed patterns similar to those of hospital discharge rates.

Correlations between rates

Pearson correlation coefficients were computed between sets of rates for MSAs and rural areas within States. Discharges per 1,000 enrollees and 30-day post-admission deaths per 1,000 discharges were negatively correlated ($r = -0.25$). Discharges per 1,000 enrollees were positively correlated with deaths per 1,000 persons ($r = 0.59$). This correlation was stronger for cancer of the trachea, bronchus, and lung than for the other diagnostic groups examined in this study.

Urban-rural patterns

Nationwide, discharge rates for malignant neoplasms of the trachea, bronchus, and lung were similar in urban and rural areas (3.92 discharges per 1,000 enrollees and 3.81 deaths per 1,000 aged persons were slightly higher in urban areas (2.73) than in rural areas (2.53), although 30-day post-admission deaths per 1,000 discharges were lower in urban areas (274.8 in urban and 298.3 in rural areas).

Table 1. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

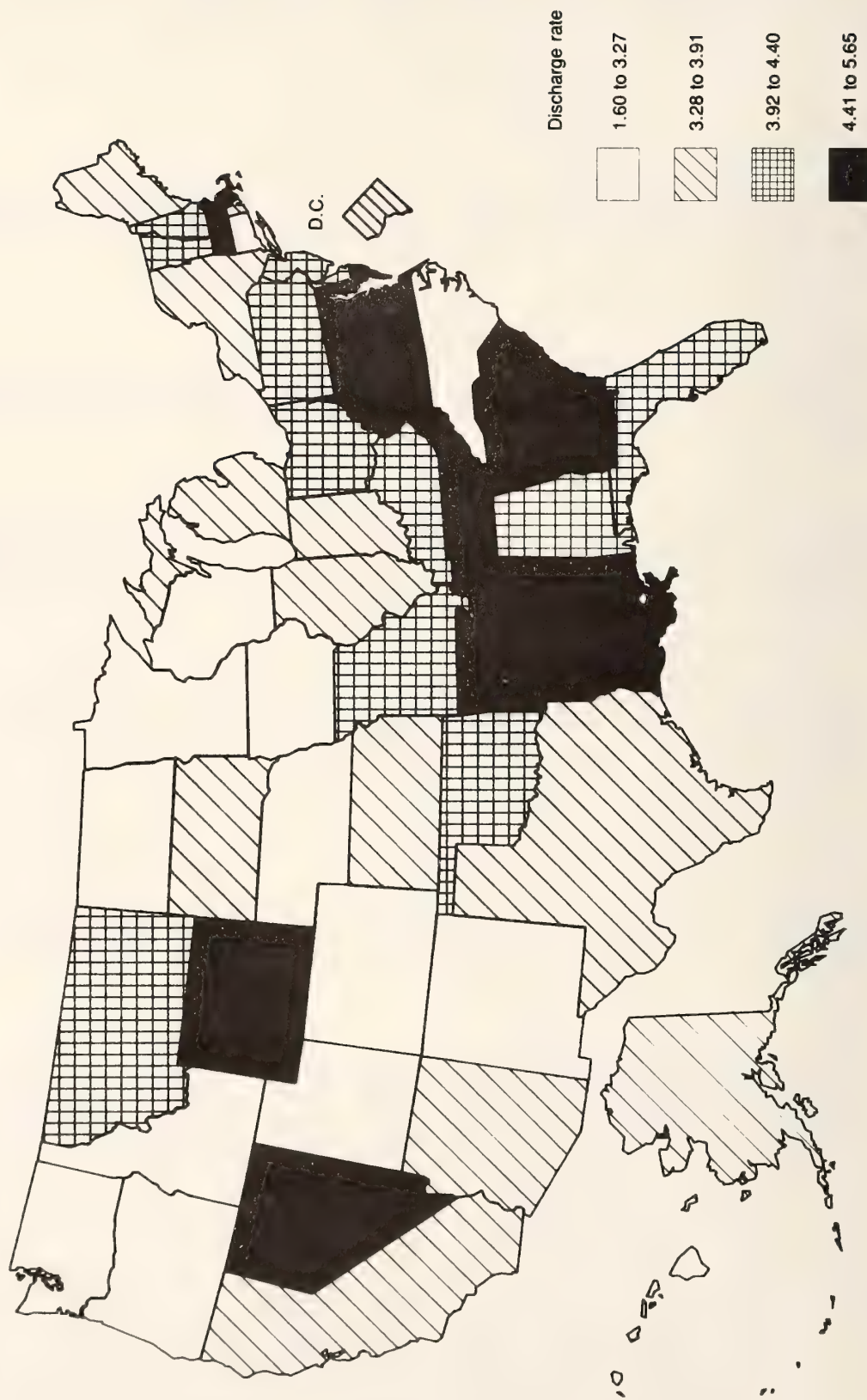
Age, sex, and race	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
All persons (1)	26,698,924	96.70	103,766	3.88	281.0	1.09	2.66
65-74 years	16,162,594	96.33	68,411	4.23	259.6	1.10	2.62
75-84 years	8,020,447	96.96	30,761	3.83	312.7	1.20	2.92
85 years or over	2,515,883	98.32	4,594	1.82	387.9	0.71	2.05
Men	10,650,991	96.01	66,021	6.19	293.6	1.82	4.49
65-74 years	7,056,445	95.90	43,427	6.15	271.0	1.67	4.07
75-84 years	2,912,366	96.02	19,964	6.85	328.9	2.25	5.45
85 years or over	682,180	97.22	2,630	3.85	398.9	1.54	4.48
Women	16,047,933	97.16	37,745	2.35	259.1	0.61	1.41
65-74 years	9,106,149	96.66	24,984	2.74	239.9	0.66	1.48
75-84 years	5,108,081	97.51	10,797	2.11	282.8	0.60	1.41
85 years or over	1,833,703	98.74	1,964	1.07	373.2	0.40	1.09
White	23,574,066	96.62	91,228	3.86	283.2	1.10	2.67
65-74 years	14,207,064	96.23	59,863	4.21	260.7	1.10	2.62
75-84 years	7,134,499	96.88	27,304	3.82	316.1	1.21	2.95
85 years or over	2,232,503	98.26	4,061	1.81	393.5	0.72	2.05
Men	9,391,016	95.94	57,615	6.13	296.5	1.82	4.47
65-74 years	6,216,472	95.83	37,678	6.06	272.0	1.65	4.01
75-84 years	2,573,989	95.94	17,619	6.84	334.9	2.29	5.49
85 years or over	600,555	97.12	2,318	3.85	402.9	1.56	4.52
Women	14,183,050	97.07	33,613	2.36	260.3	0.62	1.44
65-74 years	7,990,592	96.55	22,185	2.77	241.4	0.67	1.52
75-84 years	4,560,510	97.42	9,685	2.12	281.9	0.60	1.44
85 years or over	1,631,948	98.69	1,743	1.06	381.0	0.41	1.10
Black	1,991,943	97.86	8,614	4.32	276.8	1.20	2.84
65-74 years	1,213,014	97.54	5,791	4.77	264.2	1.26	2.92
75-84 years	583,429	98.11	2,404	4.12	298.3	1.23	2.90
85 years or over	195,500	99.11	419	2.14	327.0	0.70	2.04
Men	792,788	97.49	5,873	7.40	281.6	2.09	5.27
65-74 years	519,305	97.28	3,999	7.70	272.1	2.10	5.18
75-84 years	215,401	97.67	1,618	7.51	295.4	2.22	5.71
85 years or over	58,082	98.74	256	4.40	343.8	1.52	4.32
Women	1,199,155	98.10	2,741	2.28	266.3	0.61	1.21
65-74 years	693,709	97.74	1,792	2.58	246.7	0.64	1.25
75-84 years	368,028	98.37	786	2.13	304.1	0.65	1.19
85 years or over	137,418	99.26	163	1.18	300.6	0.36	0.99

(1) Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

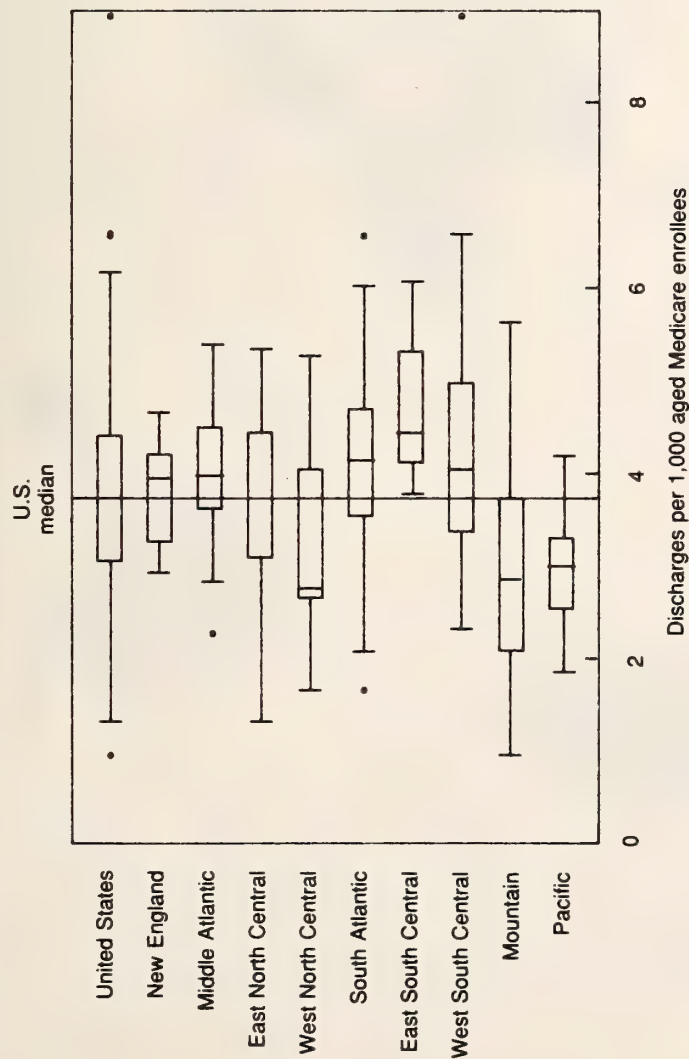
SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Figure 1. Malignant neoplasms of trachea, bronchus, and lung: Short-stay hospital discharges per 1,000 aged Medicare enrollees, by State: 1986



NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included.
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System.

Figure 2. Malignant neoplasms of trachea, bronchus, and lung: Short-stay hospital discharges per 1,000 aged Medicare enrollees for rural and metropolitan statistical areas, by division: United States, 1986

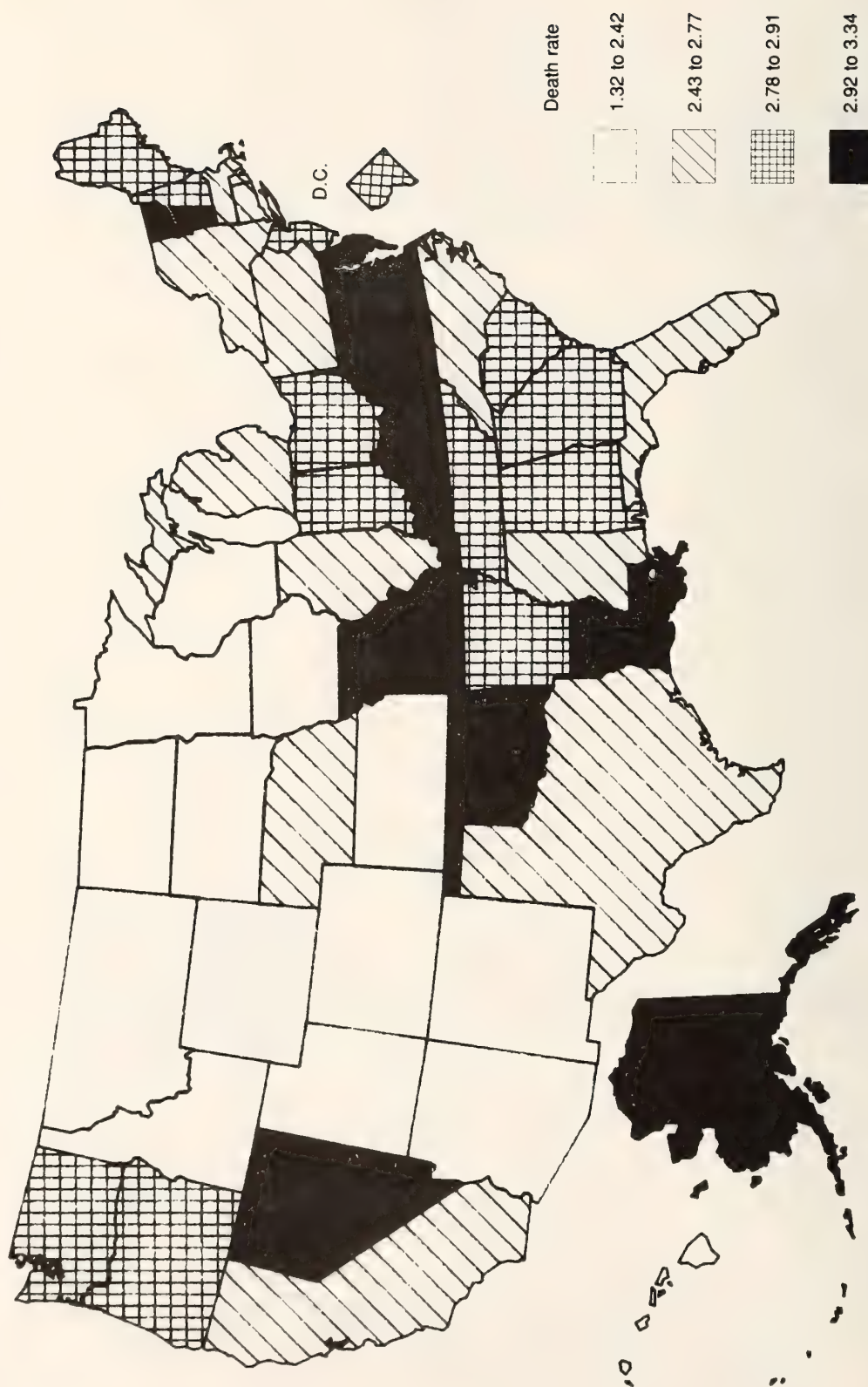


Outliers for discharges per 1,000 enrollees

Area	Rural or metropolitan statistical area	Rate
United States	Provo-Orem, UT	0.95
	Panama City, FL	6.59
	Lake Charles, LA	6.60
	Monroe, LA	8.95
Middle Atlantic	Lancaster, PA	2.26
South Atlantic	Asheville, NC	1.66
	Panama City, FL	6.59
West South Central	Monroe, LA	8.95

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Figure 3. Malignant neoplasms of trachea, bronchus, and lung: Deaths per 1,000 aged population, by State: 1986



SOURCES: Population death rates were derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	103,766	3.89	281.0	1.092	2.68
Metropolitan	19,363,284	95.80	75,368	3.92	274.8-	1.086	2.73+
Rural	7,335,640	99.16	28,398	3.81	298.3+	1.105	2.53-
Northeast	6,276,897	98.04	24,790	4.00+	275.2	1.112	2.67
Metropolitan	5,564,648	97.84	22,005	4.02+	272.4-	1.106	2.68
Rural	712,249	99.69	2,785	3.88	298.4	1.150	2.58
New England	1,569,313	96.20	6,045	3.94	283.3	1.122	2.73
Metropolitan	1,342,886	95.66	5,164	3.95	277.6	1.105	2.73
Rural	226,427	99.53	881	3.86	318.3	1.224	2.78
Maine	153,209	99.88	511	3.35	358.6+	1.189	2.87
Metropolitan	82,345	99.89	266	3.28	326.1	1.076	2.90
Rural	70,864	99.87	245	3.42	395.5+	1.321	2.84
New Hampshire	114,752	98.98	482	4.22	315.9	1.354	2.91
Metropolitan	74,135	98.55	306	4.19	334.0	1.468+	3.06
Rural	40,617	99.77	176	4.27	280.9	1.150	2.63
Vermont	62,781	99.82	257	4.10	347.4	1.437	2.92
Metropolitan	10,422	99.91	40	3.93	475.4	1.644	3.88
Rural	52,359	99.80	217	4.14	324.0	1.357	2.74
Massachusetts	709,478	93.75	3,074	4.50+	274.2	1.241+	2.77
Metropolitan	659,025	93.40	2,866	4.53+	275.8	1.255+	2.76
Rural	50,453	98.58	208	4.08	253.0	1.064	2.94
Rhode Island	132,332	97.59	453	3.50	227.9-	0.802-	2.77
Metropolitan	132,332	97.59	453	3.50	227.9-	0.802-	2.77
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Connecticut	396,761	97.56	1,268	3.22-	270.5	0.877-	2.53
Metropolitan	384,627	97.50	1,233	3.23-	268.7	0.873-	2.53
Rural	12,134	99.66	35	2.92	335.5	0.995	2.41
Middle Atlantic	4,707,584	98.68	18,745	4.02+	272.6	1.108	2.64
Metropolitan	4,221,762	98.55	16,841	4.04+	270.8-	1.107	2.56
Rural	485,822	99.76	1,904	3.89	289.1	1.115	2.49-
New York	2,143,249	98.98	8,213	3.90	270.0	1.082	2.61
Metropolitan	1,922,371	98.89	7,323	3.89	267.5	1.070	2.59
Rural	220,878	99.75	890	4.01	291.3	1.179	2.80

See notes at end of table.

Table 2. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 non-HMD enrollees	Per 1,000 non-HMD enrollees	
New Jersey	916,155	97.84	3,887	4.25+	274.2	1.172	2.81
Metropolitan	916,155	97.84	3,887	4.25+	274.2	1.172	2.81
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Pennsylvania	1,648,180	98.75	6,645	4.05	274.9	1.106	2.59
Metropolitan	1,383,236	98.56	5,631	4.10	272.8	1.115	2.66
Rural	264,944	99.78	1,014	3.78	287.1	1.062	2.23-
North Central	6,901,975	96.39	25,457	3.71-	297.0	1.055-	2.59-
Metropolitan	4,398,761	95.22	16,984	3.92	279.8	1.095	2.75+
Rural	2,503,214	98.51	8,473	3.36-	302.2+	0.987-	2.31-
East North Central	4,745,430	97.76	18,137	3.83	287.4	1.092	2.66
Metropolitan	3,453,558	97.13	13,531	3.95	282.4	1.113	2.74
Rural	1,291,872	99.47	4,606	3.52-	302.3+	1.035	2.44-
Ohio	1,263,869	99.46	5,408	4.29+	275.0	1.172	2.88+
Metropolitan	987,528	99.60	4,295	4.38+	271.8	1.187	2.96+
Rural	276,341	98.95	1,113	4.00	287.9	1.118	2.59
Indiana	623,062	97.86	2,409	3.89	294.1	1.118	2.81
Metropolitan	399,457	97.01	1,634	4.13	286.2	1.162	2.93+
Rural	223,605	99.41	775	3.46	311.0	1.041	2.61
Illinois	1,265,011	95.90	4,768	3.82	284.1	1.081	2.65
Metropolitan	952,934	94.73	3,632	3.87	277.9	1.085	2.74
Rural	312,077	99.68	1,136	3.66	304.9	1.068	2.38-
Michigan	982,444	96.86	3,826	3.87	292.0	1.112	2.62
Metropolitan	744,347	96.06	2,907	3.92	287.4	1.112	2.62
Rural	238,097	99.44	919	3.73	307.0	1.112	2.63
Wisconsin	611,044	99.60	1,726	2.81-	315.6+	0.890-	2.15-
Metropolitan	369,292	99.43	1,063	2.91-	321.7+	0.940-	2.23-
Rural	241,752	99.86	663	2.67-	305.5	0.816-	2.02-
West North Central	2,156,545	93.50	7,320	3.44-	286.3	0.975-	2.45-
Metropolitan	945,203	88.82	3,453	3.79	269.5	1.028	2.79
Rural	1,211,342	97.51	3,867	3.19-	302.1+	0.935-	2.17-
Minnesota	397,258	77.30	1,003	2.60-	315.2	0.829-	2.01-
Metropolitan	187,915	67.07	480	2.74-	320.8	0.910-	2.21-
Rural	209,343	89.55	523	2.48-	309.5	0.760-	1.79-

See notes at end of table.

Table 2. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges			30-day post-admission deaths			Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Iowa									
Metropolitan	404,057	99.37	1,117	2.80-	288.3	0.796-	288.3	0.796-	2.35-
Rural	136,818	98.24	415	3.11-	276.9	0.857-	276.9	0.857-	2.76
	267,239	99.96	702	2.65-	295.1	0.765-	295.1	0.765-	2.15-
Missouri									
Metropolitan	655,875	98.17	2,849	4.40+	266.9	1.153	266.9	1.153	2.95+
Rural	383,255	96.99	1,699	4.57+	247.1-	1.132	247.1-	1.132	3.19+
	272,620	99.88	1,150	4.18	298.4	1.183	298.4	1.183	2.62
North Dakota									
Metropolitan	85,433	98.28	286	3.27	297.4	0.958	297.4	0.958	1.85-
Rural	22,964	98.14	85	3.74	330.5	1.224	330.5	1.224	2.47
	62,469	98.34	201	3.11	282.9	0.863	282.9	0.863	1.63-
South Dakota									
Metropolitan	96,216	99.59	378	3.91	257.6	1.025	257.6	1.025	2.25-
Rural	20,427	99.92	93	4.58	238.1	1.131	238.1	1.131	2.78
	75,789	99.51	285	3.73	264.1	0.997	264.1	0.997	2.11-
Nebraska									
Metropolitan	209,910	98.52	654	3.16-	310.4	0.971	310.4	0.971	2.49
Rural	70,076	95.86	259	3.82	276.1	1.071	276.1	1.071	3.34+
	139,834	99.91	395	2.83-	334.2	0.920	334.2	0.920	2.07-
Kansas									
Metropolitan	307,796	95.82	1,033	3.42-	301.0	1.010	301.0	1.010	2.42-
Rural	123,748	93.24	422	3.49	282.6	0.988	282.6	0.988	2.63
	184,048	97.63	611	3.37	314.1	1.024	314.1	1.024	2.28-
South									
Metropolitan	8,980,101	97.94	38,976	4.32+	274.3	1.166+	274.3	1.166+	2.81+
Rural	5,757,016	96.87	24,669	4.28+	262.5-	1.124	262.5-	1.124	2.87+
	3,223,085	99.91	14,307	4.38+	255.4+	1.242+	255.4+	1.242+	2.71
South Atlantic									
Metropolitan	4,668,855	96.31	19,761	4.21+	270.7-	1.133	270.7-	1.133	2.83+
Rural	3,313,125	94.94	13,959	4.20+	260.3-	1.102	260.3-	1.102	2.84+
	1,355,730	99.84	5,802	4.22+	296.9+	1.208+	296.9+	1.208+	2.81+
Delaware									
Metropolitan	70,251	99.94	280	3.96	264.1	1.068	264.1	1.068	3.10
Rural	44,355	99.95	182	4.11	226.3	0.974	226.3	0.974	3.17
	25,896	99.94	98	3.70	340.5	1.229	340.5	1.229	2.98
Maryland									
Metropolitan	436,606	99.49	2,006	4.60+	249.7-	1.149	249.7-	1.149	3.09+
Rural	395,091	99.44	1,822	4.63+	244.0-	1.133	244.0-	1.133	3.06+
	41,515	99.95	184	4.37	309.5	1.293	309.5	1.293	3.41+
District of Col.									
Metropolitan	66,196	99.75	210	3.33	203.8-	0.694-	203.8-	0.694-	2.87
Rural	66,196	99.75	210	3.33	203.8-	0.694-	203.8-	0.694-	2.87
	0	0.00	0	0.00	0.0	0.000	0.0	0.000	0.00

See notes at end of table.

Table 2. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	2,510	4.44+	299.9	1.327+	3.27+
Metropolitan	355,193	99.87	1,583	4.50+	291.1	1.313+	3.46+
Rural	210,942	99.97	927	4.34	315.2	1.353+	2.97
West Virginia	244,259	98.98	1,224	4.99+	296.7	1.473+	3.26+
Metropolitan	90,704	97.39	495	5.49+	294.0	1.645+	3.59+
Rural	153,555	99.95	729	4.70+	298.6	1.372+	3.06+
North Carolina	689,138	99.93	2,064	3.00-	342.9+	0.980-	2.58
Metropolitan	346,905	99.89	976	2.84-	360.5+	0.990	2.58
Rural	342,233	99.96	1,088	3.16-	326.5+	0.969	2.58
South Carolina	329,020	99.44	1,553	4.71+	298.3	1.354+	2.80
Metropolitan	186,873	99.05	814	4.36	288.6	1.228	2.82
Rural	142,147	99.95	739	5.17+	309.4	1.520+	2.78
Georgia	561,716	99.71	2,653	4.77+	251.9-	1.148	2.91+
Metropolitan	313,319	99.54	1,483	4.81+	235.7-	1.101	3.06+
Rural	248,397	99.93	1,170	4.72+	273.2	1.208	2.72
Florida	1,705,534	90.97	7,261	4.16+	246.2-	1.050	2.66
Metropolitan	1,514,489	90.04	6,394	4.15+	245.2-	1.045	2.64
Rural	191,045	99.17	867	4.25	253.3	1.092	2.80
East South Central	1,726,272	99.80	8,338	4.84+	275.5	1.271+	2.84+
Metropolitan	873,594	99.64	4,232	4.89+	263.3	1.244+	2.99+
Rural	852,678	99.97	4,106	4.78+	288.4	1.298+	2.69
Kentucky	422,657	99.70	1,851	4.38+	283.6	1.204	3.01+
Metropolitan	183,264	99.37	849	4.72+	261.1	1.214	3.22+
Rural	239,393	99.96	1,002	4.12	303.6	1.196	2.87
Tennessee	550,327	99.65	2,991	5.44+	278.9	1.451+	2.84
Metropolitan	342,007	99.46	1,790	5.28+	265.0	1.360+	2.87
Rural	208,320	99.96	1,201	5.68+	300.7	1.597+	2.80
Alabama	463,131	99.97	1,982	4.29+	270.2	1.080	2.85
Metropolitan	281,960	99.97	1,234	4.40+	254.8	1.055	3.06+
Rural	181,171	99.97	748	4.12	296.2	1.121	2.54
Mississippi	290,157	99.98	1,514	5.23+	265.5	1.330+	2.59
Metropolitan	66,363	99.96	359	5.39+	288.8	1.534+	2.79
Rural	223,794	99.98	1,155	5.18+	258.1	1.271	2.53

See notes at end of table.

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
West South Central	2,584,974	99.74	10,877	4.18+	279.8	1.157+	2.75
Metropolitan	1,570,297	99.59	6,478	4.12+	266.7	1.102	2.87+
Rural	1,014,677	99.97	4,399	4.27+	299.9+	1.241+	2.59
Arkansas	321,739	99.96	1,459	4.46+	284.6	1.230	2.91
Metropolitan	100,966	99.98	432	4.30	243.7	1.031	2.89
Rural	220,773	99.95	1,027	4.53+	302.4	1.320+	2.92
Louisiana	415,968	99.98	2,347	5.65+	279.0	1.550+	2.99+
Metropolitan	268,137	99.98	1,545	5.80+	266.6	1.543+	3.19+
Rural	147,831	99.99	802	5.38+	303.9	1.563+	2.65
Oklahoma	378,716	99.02	1,596	4.23	297.7	1.249+	2.93+
Metropolitan	180,038	98.00	690	3.89	296.7	1.166	3.03+
Rural	198,678	99.96	906	4.53+	298.5	1.323+	2.84
Texas	1,468,551	99.81	5,475	3.69-	273.7	1.007-	2.60
Metropolitan	1,021,156	99.73	3,811	3.71	263.8	0.984-	2.75
Rural	447,395	99.97	1,664	3.66	297.3	1.060	2.29-
West	4,539,951	93.08	14,543	3.14-	298.1+	0.973-	2.55-
Metropolitan	3,642,859	91.96	11,710	3.19-	297.4+	0.988-	2.58-
Rural	897,092	97.88	2,833	2.98-	301.0	0.912-	2.44-
Mountain	1,200,638	94.36	3,874	3.12-	295.6	0.952-	2.23-
Metropolitan	720,893	92.10	2,301	3.13-	302.0	0.985-	2.29-
Rural	479,745	97.98	1,573	3.11-	285.8	0.904-	2.13-
Montana	97,248	99.90	395	3.92	302.9	1.186	2.27-
Metropolitan	21,173	99.90	112	5.17	289.7	1.546	2.69
Rural	76,075	99.91	283	3.58	308.4	1.086	2.15-
Idaho	109,822	99.77	294	2.56-	298.9	0.768-	2.20-
Metropolitan	18,471	99.90	39	2.08-	265.6	0.539-	2.10
Rural	91,351	99.74	255	2.65-	303.9	0.812-	2.22-
Wyoming	42,408	99.91	203	4.66	318.7	1.469	2.26
Metropolitan	12,265	99.93	58	4.67	356.9	1.626	2.95
Rural	30,143	99.89	145	4.66	303.6	1.406	1.98-
Colorado	266,663	94.73	709	2.64-	289.7	0.791-	2.23-
Metropolitan	201,737	95.23	538	2.68-	295.0	0.816-	2.25-
Rural	64,926	93.22	171	2.55-	272.8	0.712-	2.18-

See notes at end of table.

Table 2. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
New Mexico Metropolitan Rural	125,371	92.49	334	2.58-	267.4	0.730-	1.94-
	51,612	85.86	113	2.16-	277.4	0.638-	1.99-
	73,759	97.76	221	2.85-	262.2	0.795-	1.90-
Arizona Metropolitan Rural	348,748	91.33	1,324	3.64	282.0	1.070	2.34-
	257,931	89.11	963	3.65	287.3	1.096	2.29-
	90,817	98.31	361	3.64	267.0	0.999	2.46
Utah Metropolitan Rural	128,579	99.92	212	1.60-	292.4	0.481-	1.32-
	93,319	99.94	144	1.51-	317.8	0.497-	1.37-
	35,260	99.88	68	1.83-	236.7	0.441-	1.20-
Nevada Metropolitan Rural	81,799	86.15	403	4.60	355.9+	1.742+	3.34+
	64,385	84.73	334	4.86	357.3+	1.853+	3.49+
	17,414	91.83	69	3.65	349.0	1.336	2.75
Pacific Metropolitan Rural	3,339,313	92.62	10,669	3.15-	299.0+	0.980-	2.67
	2,921,966	91.93	9,409	3.20-	296.3+	0.989-	2.65
	417,347	97.77	1,260	2.84-	320.3+	0.921-	2.78
Washington Metropolitan Rural	461,706	92.41	1,309	2.79-	315.6+	0.912-	2.80
	346,977	90.86	973	2.79-	315.8	0.904-	2.80
	114,729	97.42	336	2.79-	320.7	0.932	2.80
Oregon Metropolitan Rural	303,778	86.84	882	2.85-	302.9	0.877-	2.79
	181,677	80.38	518	2.88-	311.9	0.936	2.82
	122,101	98.65	364	2.81-	288.6	0.791-	2.74
California Metropolitan Rural	2,477,248	93.71	8,227	3.29-	296.8+	1.018-	2.66
	2,330,007	93.36	7,758	3.31-	293.7	1.014-	2.64
	147,241	99.57	469	2.99-	350.6+	1.073	3.04
Alaska Metropolitan Rural	16,348	99.78	60	3.35	250.6	0.888	3.21
	5,625	99.75	16	2.66	213.8	0.697	2.93
	10,723	99.80	44	3.71	267.3	0.986	3.35
Hawaii Metropolitan Rural	80,233	83.64	191	2.15-	280.3	0.633-	1.78-
	57,680	83.31	144	2.27-	275.8	0.668-	1.93-
	22,553	84.47	47	1.84-	294.9	0.544-	1.39-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
United States	26,698,924	96.70	103,766	3.89	281.0	1.092	2.68
Northeast	6,276,897	98.04	24,790	4.00+	275.2	1.112	2.67
New England	1,569,313	96.20	6,045	3.94	283.3	1.122	2.73
Maine	153,209	99.88	511	3.35	358.6+	1.189	2.87
Bangor, ME	16,035	99.87	53	3.32	230.4	0.750	2.67
Lewiston-Auburn, ME	13,464	99.93	40	3.05	429.3	1.278	3.19
Portland, ME	52,846	99.89	173	3.32	331.1	1.124	2.90
New Hampshire	114,752	98.98	482	4.22	315.9	1.354	2.91
Manchester, NH	44,397	97.91	183	4.23	325.5	1.437	3.18
Portsmouth, NH	29,738	99.52	123	4.13	346.8	1.516	2.88
Vermont	62,781	99.82	257	4.10	347.4	1.437	2.92
Burlington, VT	10,422	99.91	40	3.93	475.4	1.844	3.88
Massachusetts	709,478	93.75	3,074	4.50+	274.2	1.241+	2.77
Boston, MA	429,794	95.67	1,918	4.67+	271.3	1.291+	2.93+
New Bedford, MA	65,540	98.67	266	4.14	265.9	1.079	2.22-
Pittsfield, MA	20,281	91.00	91	4.62	284.0	1.349	2.77
Springfield, MA	72,225	92.57	305	4.35	315.2	1.294	2.54
Worcester, MA	71,185	79.42	286	4.22	273.2	1.136	2.47
Rhode Island	132,332	97.59	453	3.50	227.9-	0.802-	2.77
Providence, RI	132,332	97.59	453	3.50	227.9-	0.802-	2.77
Connecticut	396,761	97.56	1,268	3.22-	270.5	0.877-	2.53
Bridgeport, CT	96,911	96.63	306	3.19	278.6	0.904	2.44
Hartford, CT	157,139	99.16	511	3.26-	276.9	0.900	2.48
New Haven, CT	102,964	95.31	329	3.24	243.0	0.782-	2.66
New London, CT	27,613	99.70	87	3.14	281.4	0.943	2.64

See notes at end of table.

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Middle Atlantic	4,707,584	98.68	18,745	4.02+	272.6	1.108	2.64
New York	2,143,249	98.98	8,213	3.90	270.0	1.082	2.61
Albany, NY	115,122	98.78	446	3.94	274.4	1.146	3.27+
Binghamton, NY	35,576	99.96	125	3.56	316.3	1.160	2.48
Buffalo, NY	134,451	98.66	519	3.91	293.5	1.138	2.84
Elmira, NY	13,699	99.94	61	4.51	271.4	1.176	2.98
Glens Falls, NY	15,222	99.63	69	4.55	396.0	1.644	3.00
Massau-Suffolk, NY	297,143	99.88	1,167	3.91	282.8	1.147	2.86
New York, NY	997,473	99.58	3,745	3.88	241.1-	0.970-	2.29-
Niagara Falls, NY	30,841	99.69	129	4.14	326.8	1.358	2.91
Orange County, NY	30,488	99.89	151	4.97	307.1	1.607	3.27
Poughkeepsie, NY	27,864	98.47	99	3.59	265.9	1.044	2.72
Rochester, NY	102,542	98.80	337	3.38	314.8	1.077	2.56
Syracuse, NY	75,217	99.92	294	3.93	280.5	1.082	3.58+
Utica-Rome, NY	46,733	99.90	181	3.91	385.0+	1.486	2.61
New Jersey	916,155	97.84	3,887	4.25+	274.2	1.172	2.81
Atlantic City, NJ	46,406	97.93	216	4.70	274.2	1.294	3.02
Bergen-Passaic, NJ	171,246	99.45	621	3.63	271.4	1.000	2.51
Jersey City, NJ	64,069	99.25	335	5.32+	260.3	1.352	2.63
Middieesex, NJ	91,009	94.70	361	3.92	234.0	0.923	2.79
Monmouth-Ocean, NJ	154,643	99.57	692	4.42	277.7	1.237	2.93
Newark, NJ	211,511	99.40	871	4.17	285.7	1.200	2.75
Trenton, NJ	38,499	97.14	191	5.02	249.5	1.255	2.73
Vineland, NJ	16,382	96.17	80	4.85	283.3	1.400	3.24
Pennsylvania	1,648,180	98.75	6,645	4.05	274.9	1.106	2.59
Allentown, PA-NJ	94,668	99.09	345	3.63	293.8	1.055	2.33
Altoona, PA	20,692	99.99	74	3.62	258.0	0.923	2.52
Beaver County, PA	27,562	99.95	129	4.57	302.5	1.367	2.89
Erie, PA	35,244	99.92	142	4.00	290.5	1.106	2.53
Harrisburg, PA	72,929	99.95	282	3.89	290.7	1.156	2.62
Johnstown, PA	40,260	99.97	159	3.90	349.7	1.236	2.15
Lancaster, PA	48,045	99.93	108	2.26-	319.1	0.708-	2.28
Philadelphia, PA-NJ	569,054	95.81	2,485	4.45+	269.1	1.212+	2.91+
Pittsburgh, PA	323,494	99.06	1,554	4.81+	252.1-	1.205	2.98+
Reading, PA	48,476	99.88	146	2.99	345.6	1.047	2.49
Scranton, PA	122,888	99.95	363	2.99-	249.6	0.726-	2.05-
Sharon, PA	19,009	99.97	104	5.39	265.1	1.412	2.08
State College, PA	10,032	99.97	31	3.06	355.4	0.991	2.66
Williamsport, PA	16,877	99.98	56	3.34	332.2	1.128	2.40
York, PA	48,541	99.96	138	2.81-	369.2	0.983	2.30

See notes at end of table.

Table 3. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
North Central	6,901,975	96.39	25,457	3.71-	287.0	1.055-	2.59-
East North Central	4,745,430	97.76	18,137	3.83	287.4	1.092	2.66
Ohio	1,263,869	99.46	5,408	4.29+	275.0	1.172	2.88+
Akron, OH	75,615	99.90	313	4.16	241.5	1.009	2.50
Canton, OH	51,895	99.97	190	3.64	252.3	0.885	2.45
Cincinnati, OH-KY-IN	159,407	99.96	795	5.10+	331.5+	1.690+	3.46+
Cleveland, OH	242,585	99.71	1,096	4.55+	258.4	1.193	2.82
Columbus, OH	121,377	99.73	480	4.02	209.6-	0.848-	3.20+
Dayton, OH	103,547	99.95	385	3.72	309.5	1.113	2.96
Hamilton, OH	26,009	99.95	126	4.88	290.9	1.390	3.38
Lima, OH	19,579	99.97	87	4.48	346.3	1.488	2.36
Lorain-Elyria, OH	27,340	99.85	127	4.55	344.7	1.565	2.91
Mansfield, OH	15,230	99.96	67	4.37	313.1	1.377	3.46
Steubenville, OH-WV	21,934	98.57	110	4.93	229.4	1.131	3.32
Toledo, OH	70,660	99.95	323	4.63	256.0	1.223	3.10
Youngstown, OH	69,319	99.95	314	4.46	282.2	1.222	2.95
Indiana	623,062	97.86	2,409	3.89	294.1	1.118	2.81
Anderson, IN	17,198	99.83	63	3.68	279.7	0.988	2.59
Bloomington, IN	7,913	99.87	23	2.93	408.6	1.138	2.19
Elkhart-Goshen, IN	15,647	99.92	44	2.84	215.9	0.642	1.84
Evansville, IN-KY	34,434	95.72	159	4.71	256.0	1.169	2.88
Fort Wayne, IN	37,565	97.77	97	2.62-	289.4	0.750	2.90
Gary-Hammond, IN	61,160	97.01	270	4.31	298.5	1.248	2.74
Indianapolis, IN	118,407	93.81	597	5.15+	298.1	1.503+	3.24+
Kokomo, IN	10,842	99.94	47	4.37	317.9	1.389	2.60
Lafayette, IN	11,228	99.92	32	2.90	222.1	0.718	2.70
Muncie, IN	13,759	99.91	51	3.78	252.5	0.878	3.24
South Bend, IN	33,170	99.93	93	2.82	327.9	0.936	2.83
Terre Haute, IN	19,585	99.89	84	4.45	254.6	1.139	3.13
Illinois	1,265,011	95.90	4,768	3.82	284.1	1.081	2.65
Aurora-Elgin, IL	30,946	98.68	106	3.50	344.3	1.173	2.16
Bloomington, IL	12,672	99.94	58	4.70	228.2	1.118	3.41
Champaign, IL	13,391	99.91	56	4.26	345.1	1.434	3.03
Chicago, IL	608,135	92.94	2,193	3.67	264.5	0.986-	2.88
Decatur, IL	15,992	99.97	81	5.18	336.7	1.580	3.16
Joliet, IL	28,047	97.18	109	3.89	258.9	1.000	2.76
Kankakee, IL	12,020	99.94	47	3.88	319.0	1.244	2.42
Lake County, IL	36,099	96.52	130	3.60	333.9	1.278	2.79
Peoria, IL	43,549	99.93	231	5.34+	277.8	1.450	2.85
Rockford, IL	28,351	88.93	86	3.05	362.0	1.098	2.60
Springfield, IL	24,799	99.96	113	4.73	267.5	1.309	3.01

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Table 3. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Michigan	982,444	96.86	3,826	3.87	292.0	1.112	2.62
Ann Arbor, MI	17,760	95.12	74	4.27	329.5	1.482	2.88
Battle Creek, MI	16,831	99.89	65	3.89	322.3	1.192	2.69
Benton Harbor, MI	21,618	99.88	101	4.62	352.2	1.613	3.13
Detroit, MI	448,826	96.43	1,811	4.04	282.0	1.130	2.66
Flint, MI	43,084	91.01	204	4.81	320.0	1.494	3.00
Grand Rapids, MI	64,091	95.42	232	3.66	279.0	0.987	2.00-
Jackson, MI	17,046	99.82	42	2.46	247.0	0.587-	2.41
Kalamazoo, MI	21,512	99.85	62	2.94	403.8	1.126	2.65
Lansing, MI	32,460	90.23	103	3.25	255.6	0.840	2.34
Muskegon, MI	18,957	98.06	59	3.08	229.0	0.631	2.41
Saginaw, MI	42,162	96.18	154	3.63	249.6	0.900	2.65
Wisconsin	611,044	99.60	1,726	2.81-	315.6+	0.890-	2.15-
Appleton, WI	34,483	99.96	88	2.54-	333.1	0.895	2.25
Eau Claire, WI	16,955	99.94	53	3.10	362.0	1.173	1.85
Green Bay, WI	19,185	99.97	61	3.20	316.9	0.990	2.19
Janesville, WI	16,529	99.85	61	3.73	276.9	0.969	2.05
Kenosha, WI	14,291	99.91	33	2.30-	236.4	0.558-	3.11
LaCrosse, WI	11,858	99.91	30	2.60	318.6	0.852	1.96
Madison, WI	30,776	99.74	74	2.44-	256.6	0.655-	2.28
Milwaukee, WI	166,813	99.21	525	3.21-	330.6	1.045	2.39
Racine, WI	20,503	99.90	66	3.23	307.2	1.028	2.32
Sheboygan, WI	14,461	99.98	19	1.32-	201.2	0.276-	1.16-
Wausau, WI	12,945	99.95	27	2.05-	382.8	0.842	1.51-
West North Central	2,156,545	93.50	7,320	3.44-	286.3	0.975-	2.45-
Minnesota	397,258	77.30	1,003	2.60-	315.2	0.829-	2.01-
Duluth, MN-WI	29,977	76.74	95	3.26	426.8+	1.386	2.10
Minneapolis, MN-WI	141,769	64.45	341	2.61-	308.3	0.852-	2.32-
Rochester, MN	9,393	99.67	35	3.90	198.0	0.761	2.13
St. Cloud, MN	12,248	70.92	26	2.21-	499.0	1.000	1.34-
Iowa	404,057	99.37	1,117	2.80-	288.3	0.796-	2.35-
Cedar Rapids, IA	19,323	99.94	50	2.63	372.2	0.940	2.21
Davenport, IA-IL	44,646	99.94	148	3.34	397.6+	1.304	2.54
Des Moines, IA	40,067	94.50	133	3.46	212.1	0.712-	2.91
Dubuque, IA	11,460	99.95	31	2.81	226.7	0.621	3.29
Iowa City, IA	6,240	99.90	10	1.65-	306.2	0.486	2.05
Sioux City, IA-NE	15,951	99.96	34	2.18-	277.6	0.632	2.82
Waterloo, IA	19,521	99.96	59	3.04	323.9	0.976	2.56

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	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Missouri	655,875	98.17	2,849	4.40+	266.9	1.153	2.95+
Columbia, MO	8,560	99.98	17	2.02	128.0	0.235-	2.18
Joplin, MO	19,275	99.95	101	5.29	327.7	1.662	4.07+
Kansas City, MO-KS	154,919	95.72	709	4.70+	217.7-	1.031	3.10+
St. Joseph, MO	13,630	99.97	54	4.09	278.5	1.038	2.88
St. Louis, MO-IL	283,167	97.43	1,278	4.63+	260.9	1.215	3.22+
Springfield, MO	27,676	99.94	100	3.67	197.3	0.762	2.60
North Dakota	85,433	98.28	286	3.27	297.4	0.958	1.85-
Bismarck, ND	8,160	95.13	33	4.06	324.5	1.349	2.37
Fargo, ND-MN	14,138	96.57	46	3.31	291.1	0.926	1.95
Grand Forks, ND	5,687	99.95	15	2.66	406.8	1.059	2.76
South Dakota	96,216	99.59	378	3.91	257.6	1.025	2.25-
Rapid City, SD	7,152	99.89	36	4.94	276.2	1.387	3.50
Sioux Falls, SD	13,275	99.93	57	4.38	215.2	0.991	2.38
Nebraska	209,910	98.52	654	3.16-	310.4	0.971	2.49
Lincoln, NE	20,994	98.50	62	3.06	313.4	0.968	2.57
Omaha, NE-IA	57,609	95.39	244	4.36	256.1	1.161	3.65+
Kansas	307,796	95.82	1,033	3.42-	301.0	1.010	2.42-
Lawrence, KS	4,965	87.78	19	3.94	243.3	1.022	2.09
Topeka, KS	18,983	97.26	44	2.40-	277.9	0.694	2.23
Wichita, KS	45,844	88.57	124	2.78-	388.5	1.062	2.70
South	8,980,101	97.94	38,976	4.32+	274.3	1.166+	2.81+
South Atlantic	4,668,855	96.31	19,761	4.21+	270.7-	1.133	2.83+
Delaware	70,251	99.94	280	3.96	264.1	1.068	3.10
Wilmington, DE-NJ-MD	58,114	99.65	249	4.26	242.9	1.068	3.25
Maryland	436,606	99.49	2,006	4.60+	249.7-	1.149	3.09+
Baltimore, MD	244,878	99.90	1,232	5.05+	249.7	1.250	3.34+
Cumberland, MD-WV	17,051	99.95	81	4.78	261.2	1.231	2.73
Hagerstown, MD	14,522	99.95	35	2.41	161.5	0.414-	1.96
District of Col.	66,196	99.75	210	3.33	203.8-	0.694-	2.87
Washington, DC-MD-VA	261,121	99.05	939	3.65	236.6-	0.894-	2.87

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	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	2,510	4.44+	299.9	1.327+	3.27+
Charlottesville, VA	12,020	99.92	50	4.16	379.8	1.663	3.42
Danville, VA	15,532	99.99	62	4.00	368.0	1.353	3.11
Lynchburg, VA	18,110	99.99	63	3.54	298.5	0.998	3.22
Norfolk, VA	102,601	99.96	611	5.97+	275.3	1.656+	3.79+
Richmond, VA	85,698	99.98	357	4.25	293.0	1.227	3.64+
Roanoke, VA	30,622	99.98	123	4.15	318.9	1.289	3.36
West Virginia	244,259	98.98	1,224	4.99+	296.7	1.473+	3.26+
Charleston, WV	34,215	99.96	206	6.01+	239.0	1.517	4.04+
Huntington, WV-KY-OH	40,891	99.95	225	5.51+	284.0	1.538	3.07
Parkersburg, WV-OH	19,888	99.94	85	4.32	329.9	1.412	3.29
Wheeling, WV-OH	22,016	82.51	111	5.19	353.3	1.701	3.07
North Carolina	689,138	99.93	2,064	3.00-	342.9+	0.980-	2.58
Asheville, NC	24,469	99.92	40	1.66-	255.1	0.410-	1.81-
Burlington, NC	14,505	99.99	44	3.04	456.3	1.379	2.81
Charlotte, NC	109,337	99.79	293	2.70-	402.6+	1.092	2.77
Fayetteville, NC	13,388	99.98	40	2.98	220.1	0.599	2.12
Greensboro, NC	99,387	99.97	306	3.11-	392.6+	1.152	2.58
Hickory, NC	23,392	99.97	49	2.09-	345.9	0.682	2.11
Jacksonville, NC	5,134	99.86	20	3.83	493.8	1.750	3.23
Raleigh-Durham, NC	56,484	99.86	165	2.99	255.3	0.750-	2.54
Wilmington, NC	12,634	99.97	42	3.36	270.7	0.878	2.92
South Carolina	329,020	99.44	1,553	4.71+	298.3	1.354+	2.80
Anderson, SC	16,583	99.70	78	4.71	209.9	0.964	1.70-
Charleston, SC	34,246	98.90	195	5.67+	280.6	1.609	3.37
Columbia, SC	35,361	99.98	162	4.61	322.9	1.451	3.09
Florence, SC	11,195	99.96	46	4.16	266.4	0.990	2.41
Greenville, SC	65,893	98.01	243	3.71	307.4	1.079	2.77
Georgia	561,716	99.71	2,653	4.77+	251.9-	1.148	2.91+
Albany, GA	9,292	99.92	48	5.23	148.9	0.869	2.51
Athens, GA	13,510	99.96	47	3.54	404.0	1.341	2.77
Atlanta, GA	189,539	99.27	939	5.05+	244.6-	1.188	3.12+
Augusta, GA-SC	32,938	99.93	167	5.09	254.9	1.311	3.27
Columbus, GA-AL	22,847	99.96	65	2.87	333.8	0.881	2.65
Macon, GA	25,929	99.97	107	4.22	215.4	0.936	3.01
Savannah, GA	25,338	99.94	119	4.71	132.5-	0.593-	2.70

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	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Florida	1,705,534	90.97	7,261	4.16+	246.2-	1.050	2.66
Bradenton, FL	42,906	99.68	184	4.20	325.5	1.376	2.55
Daytona Beach, FL	62,616	92.90	283	4.42	252.1	1.151	2.53
Fort Lauderdale, FL	181,839	81.09	812	4.48	223.5-	1.063	2.40-
Fort Myers, FL	61,428	99.65	232	3.52	213.6	0.741-	2.55
Fort Pierce, FL	41,198	99.28	173	3.91	241.8	1.011	2.48
FT. Walton Beach, FL	10,169	99.88	32	2.99	253.2	0.776	2.79
Gainesville, FL	16,758	99.58	71	4.14	304.8	1.241	3.46
Jacksonville, FL	80,895	98.22	389	4.81	207.6-	1.015	3.61+
Lakeland, FL	55,495	99.56	209	3.62	264.7	0.938	2.19
Melbourne, FL	46,501	99.72	278	5.63+	227.7	1.260	3.25
Miami-Hialeah, FL	168,502	79.57	753	4.61+	222.8-	1.082	2.37-
Naples, FL	23,433	99.75	87	3.39	337.2	1.146	2.10
Ocala, FL	31,367	99.50	121	3.57	222.9	0.865	2.55
Orlando, FL	90,604	98.55	375	4.07	275.5	1.142	2.62
Panama City, FL	11,817	99.70	81	6.59	293.3	1.833	3.14
Pensacola, FL	29,972	99.89	119	3.90	217.0	0.863	4.58+
Sarasota, FL	77,895	99.81	299	3.67	270.3	1.038	2.68
Tallahassee, FL	17,414	97.85	60	3.45	240.1	0.803	2.30
Tampa, FL	323,551	87.05	1,324	4.07	248.1-	1.020	2.82
West Palm Beach, FL	139,729	85.22	512	3.57	267.3	0.981	2.48
East South Central	1,726,272	99.80	8,338	4.84+	275.5	1.271+	2.84+
Kentucky	422,657	99.70	1,851	4.38+	283.6	1.204	3.01+
Lexington, KY	31,008	98.87	122	4.01	263.3	1.041	3.20
Louisville, KY-IN	107,485	99.20	463	4.39	226.3-	0.984	3.20+
Owensboro, KY	10,319	99.96	44	4.33	237.8	1.070	2.94
Tennessee	550,327	99.65	2,991	5.44+	278.9	1.451+	2.84
Chattanooga, TN-GA	50,061	99.97	273	5.52+	221.5	1.162	2.93
Clarksville, TN-KY	12,541	99.91	51	4.06	238.0	0.953	2.14
Jackson, TN	10,064	99.95	48	4.89	225.6	1.202	2.10
Johnson City, TN-VA	55,068	99.97	224	4.05	331.4	1.303	2.53
Knoxville, TN	70,970	99.96	385	5.43+	274.7	1.394	2.86
Memphis, TN-AR-MS	88,836	98.06	523	5.97+	260.3	1.528+	3.00
Nashville, TN	92,994	99.96	494	5.37+	255.2	1.337	3.02

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Table 3. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Alabama	463,131	99.97	1,982	4.29+	270.2	1.080	2.85
Anniston, AL	13,124	99.97	58	4.41	304.1	1.217	3.52
Birmingham, AL	108,546	99.98	454	4.25	253.0	1.018	3.24+
Dothan, AL	12,690	99.94	48	3.79	328.8	1.103	2.63
Florence, AL	16,687	99.97	75	4.46	257.5	1.073	2.42
Gadsden, AL	14,295	99.97	60	4.18	275.9	1.046	3.22
Huntsville, AL	17,137	99.96	74	4.29	194.8	0.758	2.60
Mobile, AL	50,513	99.96	269	5.26+	236.6	1.181	2.90
Montgomery, AL	29,832	99.97	119	4.07	257.1	1.015	3.28
Tuscaloosa, AL	13,604	99.99	68	5.07	255.4	1.255	3.48
Mississippi	290,157	99.98	1,514	5.23+	265.5	1.330+	2.59
Biloxi-Gulfport, MS	18,079	99.97	92	4.97	350.4	1.755	2.94
Jackson, MS	35,305	99.98	185	5.33	241.0	1.281	2.65
Pascagoula, MS	8,556	99.88	54	6.09	323.0	1.846	2.81
West South Central	2,584,974	99.74	10,877	4.18+	279.8	1.157+	2.75
Arkansas	321,739	99.96	1,459	4.46+	284.6	1.230	2.91
Fayetteville, AR	11,803	99.95	29	2.43	335.8	0.757	2.28
Fort Smith, AR-OK	21,413	99.98	93	4.33	264.5	1.117	2.85
Little Rock, AR	50,966	99.99	191	3.79	252.8	0.945	3.18
Pine Bluff, AR	11,012	99.98	44	4.02	238.7	0.908	2.18
Louisiana	415,968	99.98	2,347	5.65+	279.0	1.550+	2.99+
Alexandria, LA	13,819	99.96	62	4.53	240.1	1.092	2.52
Baton Rouge, LA	39,583	99.97	181	4.56	279.7	1.290	2.71
Houma-Thibodaux, LA	13,501	100.00	81	5.88	329.7	1.842	3.27
Lafayette, LA	14,620	99.99	71	4.88	258.4	1.236	3.04
Lake Charles, LA	16,436	99.98	111	6.60+	283.1	1.870	3.43
Monroe, LA	14,648	99.99	129	8.95+	217.9	1.993	3.10
New Orleans, LA	118,708	99.98	726	6.19+	255.7	1.592+	3.36+
Shreveport, LA	36,822	99.98	184	5.10	310.4	1.509	3.42
Oklahoma	378,716	99.02	1,596	4.23	297.7	1.249+	2.93+
Enid, OK	8,215	99.94	44	5.46	361.8	1.954	3.32
Lawton, OK	8,221	99.99	26	3.11	483.8	1.454	3.03
Oklahoma City, OK	88,646	97.45	313	3.60	251.0	0.908	2.73
Tulsa, OK	71,032	98.13	298	4.25	312.1	1.359	3.40+

See notes at end of table.

Table 3. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Texas	1,468,551	99.81	5,475	3.69-	273.7	1.007-	2.60
Abilene, TX	13,100	99.96	48	3.72	302.3	1.150	2.78
Amarillo, TX	19,063	99.97	44	2.31-	269.1	0.576-	2.34
Austin, TX	47,578	99.95	157	3.30	293.4	0.968	2.78
Beaumont, TX	42,323	99.98	198	4.61	224.1	1.007	2.89
Brazoria, TX	12,486	99.78	69	5.35	247.7	1.266	2.51
Brownsville, TX	20,169	99.86	79	3.67	412.0	1.586	2.26
Bryan, TX	6,955	99.96	20	2.88	364.3	1.007	2.94
Corpus Christi, TX	28,417	95.56	153	5.26	216.0	1.148	3.22
Dallas, TX	172,118	99.95	601	3.55	262.9	0.924	3.10+
El Paso, TX	37,292	99.94	106	2.73-	302.0	0.846	2.22
Fort Worth, TX	97,947	99.96	335	3.44	265.4	0.902	2.89
Galveston, TX	19,376	99.94	107	5.39	223.6	1.226	4.34+
Houston, TX	187,992	99.85	781	4.13	268.8	1.121	2.97
Killeen-Temple, TX	17,182	99.97	56	3.23	307.2	1.044	2.41
Laredo, TX	8,421	99.99	28	3.24	404.7	1.407	1.75
Longview, TX	20,547	99.98	58	2.85	223.4	0.633-	2.09
Lubbock, TX	18,957	99.97	58	3.02	340.7	1.046	1.60-
McAllen, TX	27,402	99.82	69	2.32-	402.3	0.949	1.53-
Midland, TX	7,362	99.96	31	4.14	226.4	0.946	2.72
Odessa, TX	9,207	99.99	33	3.47	217.5	0.750	2.01
San Angelo, TX	11,213	99.93	43	3.82	158.8	0.620	1.94
San Antonio, TX	107,989	99.28	389	3.58	222.1-	0.832-	2.51
Sherman-Denison, TX	14,532	99.99	63	4.37	206.8	0.895	2.72
Texarkana, TX-AR	15,315	99.99	86	5.65	238.1	1.367	2.78
Tyler, TX	18,223	99.98	74	4.02	229.0	0.927	2.62
Victoria, TX	6,871	99.97	40	5.65	217.0	1.148	3.19
Waco, TX	23,624	99.99	68	2.91	375.1	1.061	2.74
Wichita Falls, TX	14,462	99.97	62	4.37	245.6	1.115	3.46
West	4,539,951	93.08	14,543	3.14-	298.1+	0.973-	2.55-
Mountain	1,200,638	94.36	3,874	3.12-	295.6	0.952-	2.23-
Montana	97,248	99.90	395	3.92	302.9	1.186	2.27-
Billings, MT	12,097	99.88	60	4.85	271.5	1.395	2.49
Great Falls, MT	9,076	99.91	52	5.60	312.0	1.746	2.96
Idaho	109,822	99.77	294	2.56-	298.9	0.768-	2.20-
Boise City, ID	18,471	99.90	39	2.08-	265.6	0.539-	2.10
Wyoming	42,408	99.91	203	4.66	318.7	1.469	2.26
Casper, WY	5,379	99.91	29	5.35	370.4	1.863	3.28
Cheyenne, WY	6,886	99.96	29	4.15	344.3	1.444	2.70

See notes at end of table.

Table 3. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Colorado	266,663	94.73	709	2.64-	289.7	0.791-	2.23-
Boulder-Longmont, CO	15,143	97.96	20	1.35-	430.2	0.602	2.04
Colorado Springs, CO	24,899	95.03	48	1.92-	252.5	0.564-	2.08
Denver, CO	119,624	94.10	351	2.97-	258.4	0.784-	2.35
Fort Collins, CO	15,089	99.71	42	2.75	395.8	1.120	2.19
Greeley, CO	11,610	99.62	27	2.28	283.0	0.682	1.47-
Pueblo, CO	15,372	94.43	50	3.20	473.9+	1.485	2.57
New Mexico	125,371	92.49	334	2.58-	267.4	0.730-	1.94-
Albuquerque, NM	33,783	81.01	70	2.08-	262.8	0.565-	2.07-
Las Cruces, NM	9,375	99.94	27	2.72	269.0	0.836	2.24
Santa Fe, NM	8,454	93.66	16	1.85-	354.1	0.702	1.41-
Arizona	348,748	91.33	1,324	3.64	282.0	1.070	2.34-
Phoenix, AZ	187,381	86.74	736	3.84	289.6	1.162	2.27-
Tucson, AZ	70,550	96.06	227	3.13	279.8	0.923	2.37
Utah	128,579	99.92	212	1.60-	292.4	0.481-	1.32-
Provo-Orem, UT	16,076	99.93	16	0.95-	589.2	0.547-	0.88-
Salt Lake City, UT	77,243	99.94	128	1.62-	286.5	0.487-	1.47-
Nevada	81,799	86.15	403	4.60	355.9+	1.742+	3.34+
Las Vegas, NV	45,252	82.98	275	5.66+	368.0+	2.222+	3.76+
Reno, NV	19,133	89.17	59	2.92	308.5	0.976	2.80
Pacific	3,339,313	92.62	10,669	3.15-	299.0+	0.980-	2.67
Washington	461,706	92.41	1,309	2.79-	315.6+	0.912-	2.80
Bellingham, WA	13,629	99.51	33	2.39	296.6	0.729	2.43
Bremerton, WA	15,439	96.59	38	2.42	297.3	0.772	2.23
Olympia, WA	14,254	90.98	37	2.57	333.8	0.911	2.83
Richland, WA	12,559	99.85	41	3.10	348.5	1.171	2.08
Seattle, WA	159,828	86.57	479	3.01-	312.7	0.993	2.80
Spokane, WA	41,237	94.51	104	2.53-	311.5	0.803	3.15
Tacoma, WA	50,245	97.24	113	2.21-	274.9	0.634-	2.78
Vancouver, WA	17,048	80.32	40	2.33-	400.7	0.877	3.12
Yakima, WA	22,738	99.74	88	3.77	327.2	1.127	2.94
Oregon	303,778	86.84	882	2.85-	302.9	0.877-	2.79
Eugene, OR	26,947	88.67	71	2.40-	361.9	0.891	3.19
Medford, OR	20,326	99.78	69	3.24	455.5+	1.546	3.30
Portland, OR	99,155	72.79	287	3.01-	312.9	0.967	2.84
Salem, OR	33,249	90.39	91	2.73-	171.0-	0.509-	2.13

See notes at end of table.

Table 3. Malignant neoplasms of trachea, bronchus & lung: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
California	2,477,248	93.71	8,227	3.29-	296.8+	1.018-	2.66
Anaheim-Santa Ana, CA	167,171	89.39	607	3.72	307.5	1.187	2.70
Bakersfield, CA	44,969	99.76	163	3.45	321.5	1.131	2.81
Chico, CA	27,102	99.09	95	3.34	368.4	1.265	2.87
Fresno, CA	58,425	99.90	148	2.48-	316.1	0.796-	2.14-
Los Angeles, CA	677,939	91.40	2,439	3.64	271.0	1.048	2.62
Merced, CA	13,462	99.86	53	3.76	344.3	1.314	3.50
Modesto, CA	33,619	98.80	99	2.87	373.1	1.000	2.54
Oakland, CA	188,258	99.08	493	2.61-	341.1+	0.909-	2.53
Oxnard-Ventura, CA	49,488	93.74	211	4.20	229.5	1.025	2.44
Redding, CA	17,796	99.73	57	3.03	340.5	1.043	3.76
Riverside, CA	203,246	90.92	709	3.40	286.5	0.996	2.57
Sacramento, CA	120,273	91.81	405	3.28	320.7	1.072	3.00
Salinas, CA	29,131	99.86	76	2.54-	230.9	0.611-	2.18
San Diego, CA	205,402	91.35	716	3.43	297.2	1.094	2.83
San Francisco, CA	163,753	89.02	533	3.29-	281.6	0.964	2.50
San Jose, CA	105,258	99.50	261	2.48-	305.8	0.800-	2.32
Santa Barbara, CA	38,021	99.70	100	2.61-	248.5	0.681-	2.59
Santa Cruz, CA	24,640	99.77	59	2.39-	280.1	0.687	2.32
Santa Rosa, CA	44,775	99.49	148	3.26	298.4	1.062	3.26
Stockton, CA	40,855	91.54	136	3.19	332.4	1.009	2.72
Vallejo, CA	35,778	98.59	115	3.14	342.4	1.080	2.66
Visalia, CA	28,811	99.91	90	3.00	320.1	0.951	2.26
Yuba City, CA	11,835	99.35	45	3.60	404.1	1.569	3.16
Alaska	16,348	99.78	60	3.35	250.6	0.888	3.21
Anchorage, AK	5,625	99.75	16	2.66	213.8	0.697	2.93
Hawaii	80,233	83.64	191	2.15-	280.3	0.633-	1.78-
Honolulu, HI	57,680	83.31	144	2.27-	275.8	0.668-	1.93-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMDs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Stroke, a major illness among the elderly, is the third leading cause of death (following heart disease and cancer), with a rate of 3.87 deaths per 1,000 aged persons. Strokes accounted for 319,368 hospital stays in the aged Medicare population, 3.7 percent of total stays in 1986. The discharge rate for stroke was 11.96 per 1,000 aged Medicare enrollees. The 30-day post-admission death rate per 1,000 discharges was 197.7, or approximately 20 percent of all stroke discharges (Table 1).

Age and sex patterns

In each age group, the discharge rate for stroke was greater for men than women. The difference in the discharge rate between men and women, however, decreased with age, from 32 percent more for men than women in the age group 65-74 years to 5 percent more for men in the age group 85 years or over. For both sexes, there was a notable increase in hospitalizations for strokes as age increased. The discharge rate for men and women combined in the age group 85 years or over was 3.5 times the rate for those 65-74 years (25.50 versus 7.36).

The death rate per 1,000 aged persons in the general population was 24 percent higher for men than for women in the age group 65-74 years and 15 percent higher in the age group 75-84 years; however, in the group 85 years or over, the rate for women was

9 percent higher than that for men.

Compared with the other leading causes of death—heart disease and cancer—the difference in population death rates between men and women for stroke was less marked. The death rate for stroke increased markedly with age. The rate for persons aged 85 years or over (14.89 deaths per 1,000 persons) was 10 times the rate for persons 65-74 years (1.49 deaths per 1,000 persons). This tenfold difference in stroke death rates for the oldest and youngest age groups was greater than the difference in the death rates for the oldest and youngest age groups for heart disease (sevenfold difference) or cancer (twofold difference).

Rates for 30-day post-admission deaths per 1,000 discharges for stroke increased with age. These rates were similar for men and women.

Patterns by race

The overall discharge rate for stroke (discharges per 1,000 enrollees) was 44 percent higher for black persons than for white persons (16.77 versus 11.61). This higher discharge rate for black than white persons held across all age-sex groups except men 85 years or over.

The overall population death rate (deaths per 1,000 aged persons) for black persons was 23 percent higher than that for white persons. This pattern of higher death rates for black persons held for both men and women in all age groups except 85 years of age or over.

Except for men 65-74 years of age, the 30-day post-admission death rate per 1,000 discharges was slightly lower for black than white persons in all age groups and across both sexes. Although black men 65-74 years of age had a higher 30-day post-admission death rate per 1,000 discharges than white men that age, the difference was small.

Variations by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region, division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan statistical area (MSA) level are shown in Table 3. Figures 1-3 were derived from the data in these tables.

Discharge rates

The States with the highest discharge rates for stroke per 1,000 enrollees were generally in the South (Figure 1). The States with the lowest discharge rates per 1,000 enrollees tended to be in the West. Discharge rates by State ranged from a high of 15.10 discharges per 1,000 enrollees in Georgia to a low of 8.55 in Colorado (Table 2). The variation in discharge rates by MSAs and rural areas across and within U.S. census divisions is shown in Figure 2. The East South Central Division had the highest median discharge rate, and the Mountain Division had the lowest.

NOTE: Stroke is ICD-9-CM codes 430-432, 433.0, 434, 436.

Population death rates

Most of the States with the highest population death rates per 1,000 persons for stroke were in the South; the States with the lowest population death rates were scattered throughout the country (Figure 3). As noted earlier, the South was also the area with the highest discharge rate for stroke. The population death rate by State ranged from a high of 5.40 deaths per 1,000 enrollees in South Carolina to a low of 2.64 in Delaware.

Correlations between rates

Correlation coefficients were computed between the discharge rates and both the 30-day post-admission death rates per 1,000 discharges and the population death rates. No relationship was found between the discharge rates per 1,000 enrollees and the 30-day post-admission death rates. However, a statistically significant but weak ($r = 0.38$) relationship was found between the discharge rates per 1,000 enrollees and population death rates per 1,000 aged persons. This positive relationship between the discharge rates and population death rates supports the hypothesis that a high population discharge rate in an area for a specific condition is related, in part, to a high death rate.

Urban-rural patterns

In the Nation as a whole, the discharge rate, the 30-day post-admission death rate per 1,000 discharges, and the population death rate were all slightly higher for rural areas than for the MSAs combined. Across census regions, this pattern held true only for the South. The discharge rate in rural areas was slightly higher than the discharge rate for the MSAs combined in the Northeast and the South, but the discharge rate in rural areas was lower in the North Central and West Regions. The 30-day post-admission death rate per 1,000 discharges was higher in the rural areas than in the MSAs combined in the North Central, South, and West Regions but higher in MSAs in the Northeast Region. The population death rate was slightly higher in the rural areas than in the MSAs combined in all regions except the West.

Table 1. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

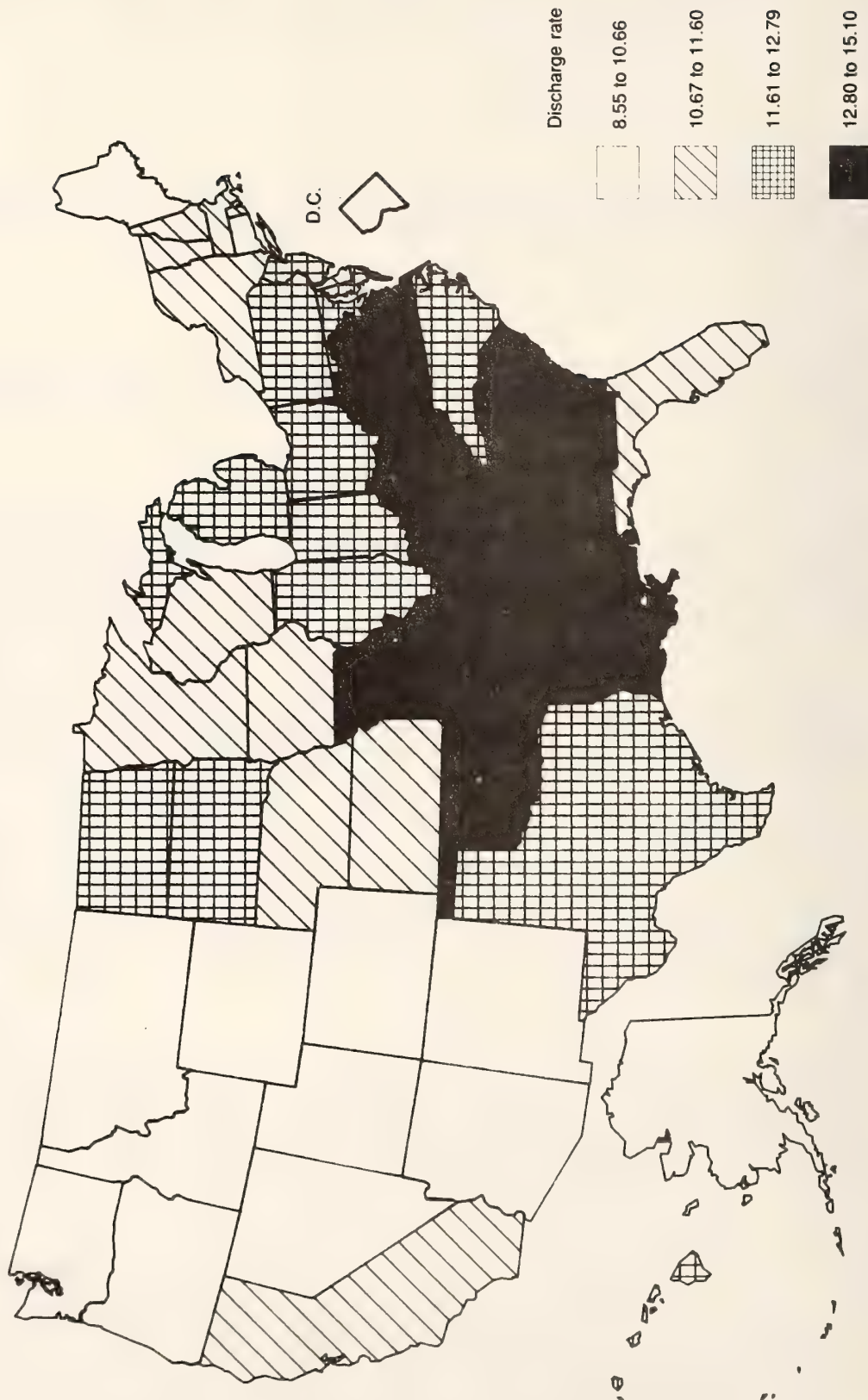
Age, sex, and race	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
All persons (1)	26,698,924	96.70	319,368	11.96	197.7	2.36	3.87
65-74 years	16,162,594	96.33	119,002	7.36	153.0	1.13	1.49
75-84 years	8,020,447	96.96	136,204	16.98	198.4	3.37	5.05
85 years or over	2,515,883	98.32	64,162	25.50	279.0	7.12	14.89
Men	10,650,991	96.01	133,153	12.50	193.4	2.42	3.58
65-74 years	7,056,445	95.90	60,187	8.52	149.8	1.28	1.67
75-84 years	2,912,366	96.02	54,957	18.87	207.8	3.92	5.49
85 years or over	682,180	97.22	18,009	26.39	295.6	7.80	14.00
Women	16,047,933	97.16	186,215	11.60	200.7	2.33	4.07
65-74 years	9,106,149	96.66	58,815	6.45	156.3	1.01	1.35
75-84 years	5,108,081	97.51	81,247	15.90	192.0	3.05	4.79
85 years or over	1,833,703	98.74	46,153	25.16	272.5	6.86	15.25
White	23,574,066	96.62	273,736	11.61	200.8	2.33	3.83
65-74 years	14,207,064	96.23	98,637	6.94	153.7	1.07	1.38
75-84 years	7,134,499	96.88	118,143	16.55	200.4	3.32	4.95
85 years or over	2,232,503	98.26	56,956	25.51	283.2	7.23	15.17
Men	9,391,016	95.94	114,012	12.14	195.8	2.38	3.50
65-74 years	6,216,472	95.83	50,381	8.10	149.2	1.21	1.54
75-84 years	2,573,989	95.94	47,570	18.48	209.6	3.87	5.39
85 years or over	600,555	97.12	16,061	26.74	300.9	8.05	14.33
Women	14,183,050	97.07	159,724	11.26	204.4	2.30	4.05
65-74 years	7,990,592	96.55	48,256	6.03	158.4	0.96	1.25
75-84 years	4,560,510	97.42	70,573	15.47	194.3	3.01	4.69
85 years or over	1,631,948	98.69	40,895	25.05	276.3	6.92	15.49
Black	1,991,943	97.86	33,416	16.77	179.3	3.01	4.72
65-74 years	1,213,014	97.54	14,969	12.34	150.2	1.85	2.71
75-84 years	583,429	98.11	12,963	22.21	187.2	4.16	6.64
85 years or over	195,500	99.11	5,484	28.05	240.0	6.73	12.59
Men	792,788	97.49	13,568	17.11	181.7	3.11	4.73
65-74 years	519,305	97.28	7,071	13.61	153.4	2.09	3.05
75-84 years	215,401	97.67	5,002	23.22	199.1	4.62	7.06
85 years or over	58,082	98.74	1,495	25.73	256.9	6.61	11.49
Women	1,199,155	98.10	19,848	16.55	177.7	2.94	4.71
65-74 years	693,709	97.74	7,898	11.38	147.4	1.68	2.46
75-84 years	368,028	98.37	7,961	21.63	179.8	3.89	6.38
85 years or over	137,418	99.26	3,989	29.02	233.6	6.78	13.10

(1) Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

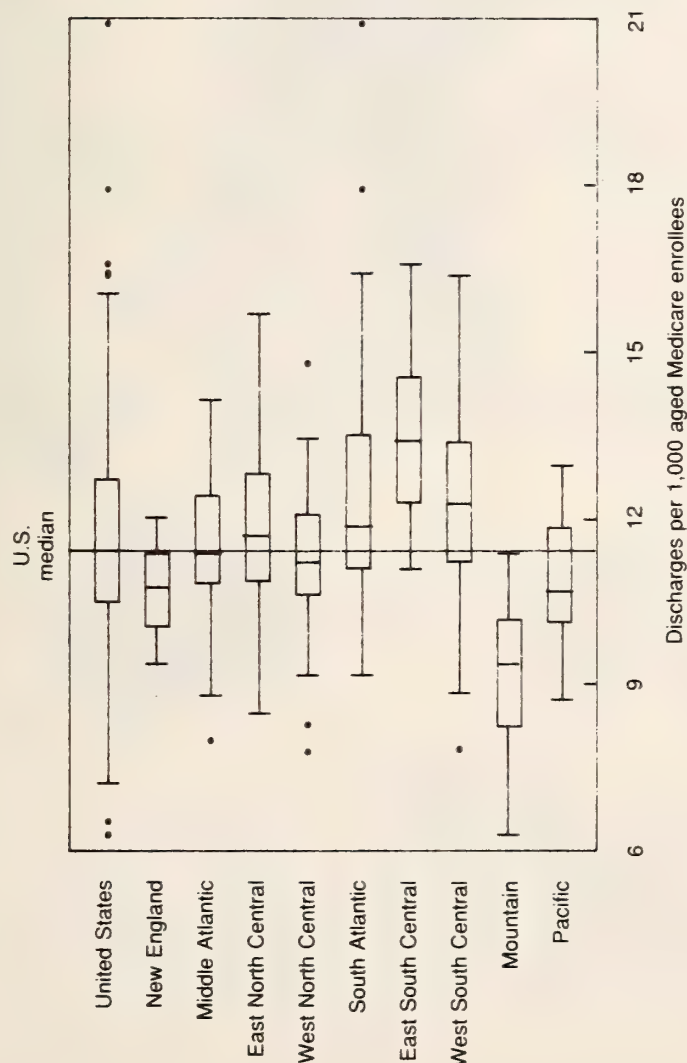
SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Figure 1. Stroke: Short-stay hospital discharges per 1,000 aged Medicare enrollees, by State: 1986



NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included.
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System.

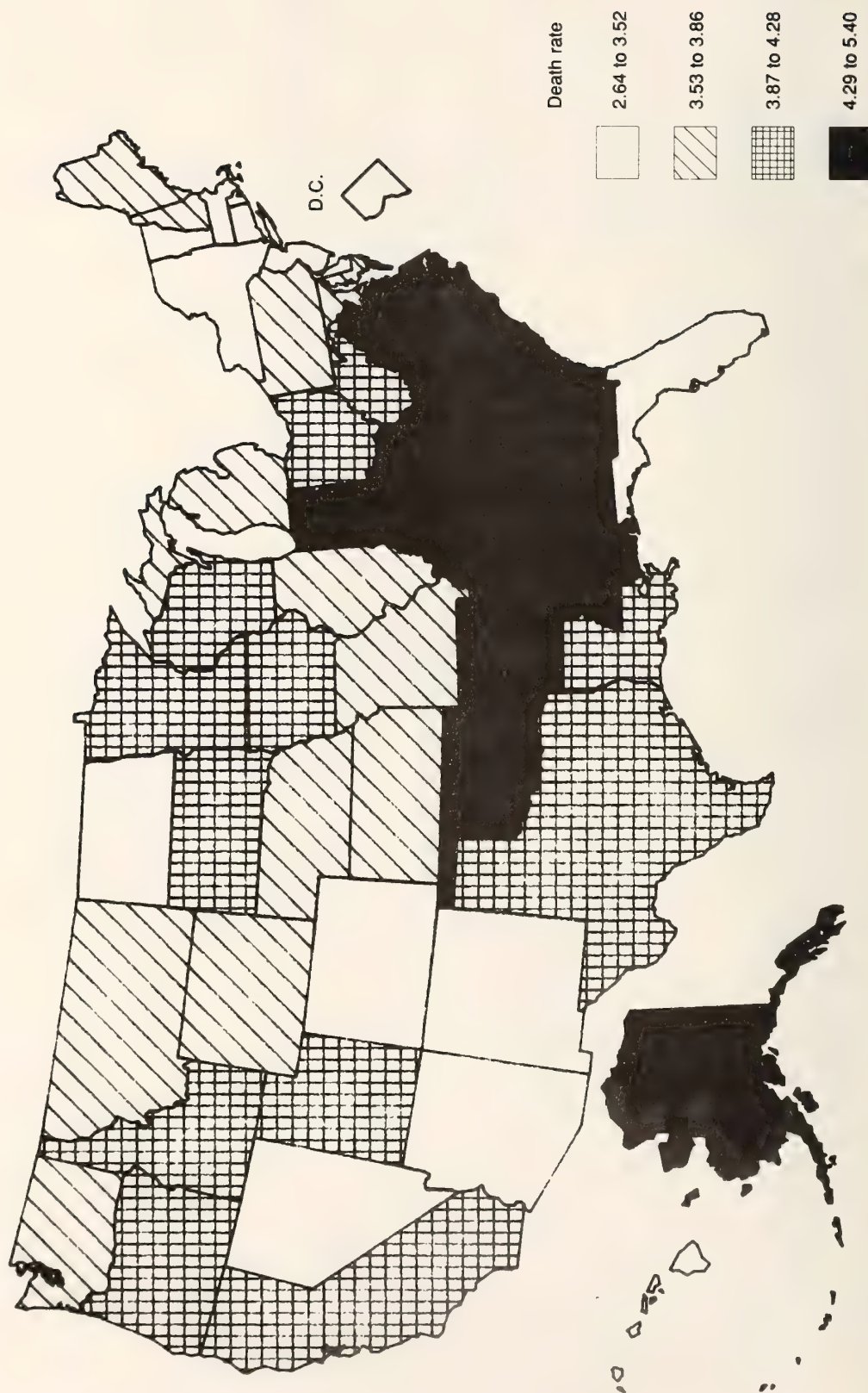
Figure 2. Stroke: Short-stay hospital discharges per 1,000 aged Medicare enrollees for rural and metropolitan statistical areas, by division: United States, 1986



Outliers for discharges per 1,000 enrollees			
Area	Rural or metropolitan statistical area	Rate	
United States	Greeley, CO	6.33	
	Casper, WY	6.49	
	Monroe, LA	16.38	
	Rural counties, GA	16.43	
	Rural counties, TN	16.54	
Middle Atlantic	Albany, GA	17.90	
	Florence, SC	20.89	
	Elmira, NY	8.28	
West North Central	Rapid City, SD	7.86	
	Lincoln, NE	8.26	
	Bismarck, ND	14.80	
South Atlantic	Albany, GA	17.90	
	Florence, SC	20.89	
West South Central	Laredo, TX	7.78	

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy. Data from the Medicare Statistical System.

Figure 3. Stroke: Deaths per 1,000 aged population, by State: 1986



SOURCES: Population death rates were derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	319,368	11.96	197.7	2.364	3.89
	19,363,284	95.80	225,757	11.69-	194.4-	2.268-	3.75-
	7,335,640	99.16	93,611	12.66+	205.5+	2.610+	4.26+
Northeast	6,276,897	98.04	71,789	11.39-	194.4	2.217-	3.43-
	5,564,648	97.84	63,364	11.34-	194.7	2.208-	3.37-
	712,249	99.69	8,425	11.80	192.8	2.288	3.87
New England	1,569,313	96.20	17,082	10.72-	189.2-	2.037-	3.41-
	1,342,886	95.66	14,572	10.68-	189.4	2.025-	3.38-
	226,427	99.53	2,510	10.94-	188.3	2.105-	3.66
Maine	153,209	99.88	1,614	10.33-	183.1	1.900-	3.66
	82,345	99.89	850	10.15-	184.7	1.846-	3.62
	70,864	99.87	764	10.54	181.4	1.962	3.70
New Hampshire	114,752	98.98	1,237	10.73-	196.3	2.171	3.69
	74,135	98.55	774	10.38-	190.7	2.052	3.69
	40,617	99.77	463	11.38	205.8	2.391	3.68
Vermont	62,781	99.82	704	10.99	174.1	1.949	3.49
	10,422	99.91	105	9.88	201.1	2.092	4.07
	52,359	99.80	599	11.21	169.3	1.921	3.38
Massachusetts	709,478	93.75	8,115	11.13-	187.1	2.082-	3.41-
	659,025	93.40	7,572	11.16-	186.6	2.078-	3.38-
	50,453	98.58	543	10.74	193.3	2.141	3.87
Rhode Island	132,332	97.59	1,522	11.43	180.8	2.082	3.27-
	132,332	97.59	1,522	11.43	180.8	2.082	3.27-
	0	0.00	0	0.00	0.0	0.000	0.00
Connecticut	396,761	97.56	3,890	9.82-	200.0	1.968-	3.29-
	384,627	97.50	3,749	9.77-	198.9	1.945-	3.27-
	12,134	99.66	141	11.49	229.7	2.689	3.80
Middle Atlantic	4,707,584	98.68	54,707	11.62-	196.1	2.278-	3.43-
	4,221,762	98.55	48,792	11.56-	196.2	2.267-	3.37-
	485,822	99.76	5,915	12.21	194.8	2.376	3.97
New York	2,143,249	98.98	23,563	10.79-	195.7	2.117-	3.22-
	1,922,371	98.89	21,005	10.72-	195.8	2.105-	3.11-
	220,878	99.75	2,558	11.41	194.7	2.223	4.15

See notes at end of table.

Table 2. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Jersey	916,155	97.84	10,752	11.93	203.6	2.431	3.52-
Metropolitan	916,155	97.84	10,752	11.93	203.6	2.431	3.52-
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Pennsylvania	1,648,180	98.75	20,392	12.58+	192.6	2.415	3.69-
Metropolitan	1,383,236	98.56	17,035	12.52+	192.2	2.397	3.66-
Rural	264,944	99.78	3,357	12.89+	194.9	2.509	3.81
North Central	6,901,975	96.39	84,528	12.08	196.0	2.371	3.95
Metropolitan	4,398,761	95.22	54,122	12.28+	191.0-	2.337	3.89
Rural	2,503,214	98.51	30,406	11.75	204.5+	2.426	4.07+
East North Central	4,745,430	97.76	57,874	12.22+	194.3	2.368	3.96
Metropolitan	3,453,558	97.13	42,548	12.41+	191.6-	2.366	3.92
Rural	1,291,872	99.47	15,326	11.74	201.7	2.372	4.09+
Ohio	1,263,869	99.46	15,301	12.25	193.3	2.343	3.97
Metropolitan	987,528	99.60	12,059	12.40	188.0-	2.307	3.91
Rural	276,341	98.95	3,242	11.69	212.6	2.467	4.16
Indiana	623,062	97.86	7,816	12.57+	203.5	2.552+	4.44+
Metropolitan	399,457	97.01	4,925	12.41	205.8	2.547	4.43+
Rural	223,605	99.41	2,891	12.85	199.8	2.559	4.44+
Illinois	1,265,011	95.90	15,855	12.46+	189.9	2.369	3.86
Metropolitan	952,934	94.73	11,989	12.61+	189.3	2.387	3.80
Rural	312,077	99.68	3,866	12.00	191.6	2.317	4.05
Michigan	982,444	96.86	11,801	12.21	192.5	2.349	3.83
Metropolitan	744,347	96.06	9,251	12.62+	189.2	2.383	3.79
Rural	238,097	99.44	2,550	10.91-	204.2	2.242	3.95
Wisconsin	611,044	99.60	7,101	11.39-	199.1	2.263	3.91
Metropolitan	369,292	99.43	4,324	11.50	196.6	2.242	3.96
Rural	241,752	99.86	2,777	11.21	203.0	2.294	3.84
West North Central	2,156,545	93.50	26,654	11.79	199.5	2.377	3.93
Metropolitan	945,203	88.82	11,574	11.82	188.9	2.238-	3.78
Rural	1,211,342	97.51	15,080	11.77	207.2+	2.479	4.05+
Minnesota	397,258	77.30	4,621	10.91-	215.5+	2.378	4.28+
Metropolitan	187,915	67.07	2,133	10.60-	206.4	2.191	4.20
Rural	209,343	89.55	2,488	11.18	222.9+	2.543	4.39+

See notes at end of table.

Table 2. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Iowa Metropolitan Rural	404,057	99.37	4,692	11.06-	194.6	2.162-	3.93
	136,818	98.24	1,604	11.39	176.5	2.041-	3.83
	267,239	99.96	3,088	10.90-	204.0	2.220	3.98
Missouri Metropolitan Rural	655,875	98.17	8,875	13.15+	186.7-	2.470	3.86
	383,255	96.99	5,080	12.92+	183.4-	2.374	3.68
	272,620	99.88	3,795	13.46+	191.1	2.603	4.10
North Dakota Metropolitan Rural	85,433	98.28	1,141	12.79	159.6-	2.112	3.52
	22,964	98.14	298	12.43	136.7-	1.719	3.00
	62,469	98.34	843	12.93	167.3	2.254	3.73
South Dakota Metropolitan Rural	96,216	99.59	1,185	11.67	195.0	2.362	3.89
	20,427	99.92	210	10.06	178.2	1.799	3.17
	75,789	99.51	975	12.09	198.4	2.504	4.07
Nebraska Metropolitan Rural	209,910	98.52	2,449	11.00-	219.2	2.440	3.70
	70,076	95.86	762	10.54	181.7	1.881-	3.16-
	139,834	99.91	1,687	11.22	234.9+	2.700	3.97
Kansas Metropolitan Rural	307,796	95.82	3,691	11.41	216.3+	2.497	3.77
	123,748	93.24	1,487	11.75	211.7	2.495	3.69
	184,048	97.63	2,204	11.19	219.3	2.498	3.83
South Metropolitan Rural	8,980,101	97.94	114,225	12.83+	200.2	2.563+	4.22+
	5,757,016	96.87	68,309	12.01	195.1	2.334	3.97+
	3,223,085	99.91	45,916	14.28+	207.7+	2.961+	4.68+
South Atlantic Metropolitan Rural	4,668,855	96.31	56,231	12.27+	200.5	2.450+	4.11+
	3,313,125	94.94	37,782	11.58-	195.6	2.256-	3.85
	1,355,730	99.84	18,449	14.00+	210.5+	2.933+	4.79+
Delaware Metropolitan Rural	70,251	99.94	768	11.28	189.7	2.137	2.64-
	44,355	99.95	469	10.90	178.8	1.939	2.43-
	25,896	99.94	299	11.93	206.6	2.476	2.99-
Maryland Metropolitan Rural	436,606	99.49	5,194	12.17	175.1-	2.086-	3.82
	395,091	99.44	4,705	12.20	171.5-	2.049-	3.70
	41,515	99.95	489	11.86	209.7	2.427	4.94+
District of Col. Metropolitan Rural	66,196	99.75	692	10.04-	160.2-	1.510-	3.35-
	66,196	99.75	692	10.04-	160.2-	1.510-	3.35-
	0	0.00	0	0.00	0.0	0.000	0.00

See notes at end of table.

Table 2. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	7,106	12.85+	198.1	2.527	4.33+
Metropolitan	355,193	99.87	4,278	12.38	198.5	2.441	4.19+
Rural	210,942	99.97	2,828	13.62+	197.4	2.668+	4.57+
West Virginia	244,259	98.98	3,253	13.42+	228.1+	3.060+	4.19
Metropolitan	90,704	97.39	1,175	13.14	219.8	2.929+	4.10
Rural	153,555	99.95	2,078	13.58+	232.8+	3.136+	4.25
North Carolina	689,138	99.93	8,162	12.26	207.9	2.557+	4.81+
Metropolitan	346,905	99.89	3,720	11.07-	200.1	2.227	4.63+
Rural	342,233	99.96	4,442	13.48+	214.4+	2.893+	4.99+
South Carolina	329,020	99.44	4,289	13.71+	215.3+	2.898+	5.40+
Metropolitan	186,873	99.05	2,184	12.33	202.2	2.445	4.80+
Rural	142,147	99.95	2,105	15.51+	228.7+	3.483+	6.17+
Georgia	561,716	99.71	8,262	15.10+	207.1	3.111+	5.23+
Metropolitan	313,319	99.54	4,267	14.05+	207.7	2.907+	5.13+
Rural	248,397	99.93	3,995	16.43+	206.6	3.364+	5.34+
Florida	1,705,534	90.97	18,505	10.91-	195.9	2.151-	3.41-
Metropolitan	1,514,489	90.04	16,292	10.76-	196.8	2.129-	3.39-
Rural	191,045	99.17	2,213	12.14	189.3	2.339	3.63
East South Central	1,726,272	99.80	24,800	14.37+	200.5	2.870+	4.63+
Metropolitan	873,594	99.64	11,448	13.23+	193.8	2.544+	4.34+
Rural	852,678	99.97	13,352	15.52+	206.0	3.191+	4.92+
Kentucky	422,657	99.70	5,662	13.37+	204.6	2.724+	4.55+
Metropolitan	183,264	99.37	2,146	11.74	208.5	2.416	4.27
Rural	239,393	99.96	3,516	14.62+	202.3	2.954+	4.75+
Tennessee	550,327	99.65	8,089	14.80+	193.1	2.877+	4.68+
Metropolitan	342,007	99.46	4,668	13.74+	188.7	2.588	4.48+
Rural	208,320	99.96	3,421	16.54+	199.0	3.346+	5.02+
Alabama	463,131	99.97	6,612	14.39+	192.8	2.761+	4.74+
Metropolitan	281,960	99.97	3,841	13.84+	187.9	2.570	4.42+
Rural	181,171	99.97	2,771	15.24+	199.3	3.047+	5.22+
Mississippi	290,157	99.98	4,437	14.97+	220.0+	3.227+	4.49+
Metropolitan	66,363	99.96	793	12.12	213.3	2.564	3.51
Rural	223,794	99.98	3,644	15.78+	221.5+	3.411+	4.76+

See notes at end of table.

Table 2. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		As percent of all enrollees	Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number			Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
West South Central	2,584,974		99.74	33,194	12.80+	199.6	2.553+	4.16+
	1,570,297		99.59	19,079	12.25	195.0	2.381	4.04+
	1,014,677		99.97	14,115	13.62+	205.7	2.805+	4.35+
Arkansas	321,739		99.96	4,234	13.08+	210.0	2.744+	4.49+
	100,966		99.98	1,253	12.36	195.4	2.413	4.45+
	220,773		99.95	2,981	13.41+	216.1	2.894+	4.51+
Louisiana	415,968		99.98	6,006	14.34+	183.3-	2.579+	4.14+
	268,137		99.98	3,639	13.64+	182.1	2.445	3.80
	147,831		99.99	2,367	15.55+	185.1	2.805+	4.71+
Oklahoma	378,716		99.02	5,183	13.39+	197.4	2.664+	4.70+
	180,038		98.00	2,307	12.68	190.5	2.422	4.67+
	198,678		99.96	2,876	14.03+	202.7	2.874+	4.72+
Texas	1,468,551		99.81	17,771	12.14	203.2	2.473+	3.95
	1,021,156		99.73	11,880	11.80	199.8	2.354	3.94
	447,395		99.97	5,891	12.89+	210.0	2.730+	3.98
West	4,539,951		93.08	48,826	10.84-	199.4	2.168-	3.77-
	3,642,859		91.96	39,962	11.01-	197.1	2.175-	3.79-
	897,092		97.88	8,864	10.11-	209.6+	2.142-	3.66-
Mountain	1,200,638		94.36	11,217	9.57-	202.6	1.945-	3.35-
	720,893		92.10	6,592	9.38-	196.9	1.845-	3.24-
	479,745		97.98	4,625	9.84-	210.5	2.091-	3.52-
Montana	97,248		99.90	1,031	10.66-	201.0	2.174	3.86
	21,173		99.90	223	10.70	173.9	1.835	2.82-
	76,075		99.91	808	10.65	208.1	2.266	4.15
Idaho	109,822		99.77	1,033	9.54-	206.8	1.996-	4.01
	18,471		99.90	149	8.22-	186.1	1.497-	3.49
	91,351		99.74	884	9.80-	210.1	2.095	4.11
Wyoming	42,408		99.91	400	9.49-	223.9	2.186	3.77
	12,265		99.93	88	7.32-	269.6	1.925	3.61
	30,143		99.89	312	10.35	212.0	2.289	3.83
Colorado	266,663		94.73	2,289	8.55-	191.8	1.654-	3.24-
	201,737		95.23	1,745	8.65-	192.2	1.674-	3.30-
	64,926		93.22	544	8.25-	190.3	1.591-	3.06-

See notes at end of table.

Table 2. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Mexico	125,371	92.49	1,139	9.22-	232.6+	2.181	2.95-
Metropolitan	51,612	85.86	413	8.20-	223.9	1.863-	3.14-
Rural	73,759	97.76	726	9.92-	237.4	2.395	2.80-
Arizona	348,748	91.33	3,375	10.11-	181.5	1.822-	2.94-
Metropolitan	257,931	89.11	2,518	10.08-	179.7	1.809-	2.91-
Rural	90,817	98.31	857	10.20-	187.2	1.863-	3.05-
Utah	128,579	99.92	1,188	9.41-	230.9+	2.148	4.00
Metropolitan	93,319	99.94	848	9.28-	229.2	2.111	4.07
Rural	35,260	99.88	340	9.76-	235.2	2.244	3.81
Nevada	81,799	86.15	762	10.26-	222.8	2.301	3.48
Metropolitan	64,385	84.73	608	10.43	219.9	2.275	3.40
Rural	17,414	91.83	154	9.64	233.1	2.397	3.82
Pacific	3,339,313	92.62	37,609	11.29-	198.5	2.247-	3.91
Metropolitan	2,921,966	91.93	33,370	11.41-	197.1	2.254-	3.92
Rural	417,347	97.77	4,239	10.42-	208.7	2.199	3.82
Washington	461,706	92.41	4,856	10.53-	202.2	2.119-	3.73
Metropolitan	346,977	90.86	3,655	10.51-	202.1	2.110-	3.73
Rural	114,729	97.42	1,201	10.58-	202.4	2.147	3.71
Oregon	303,778	86.84	2,983	9.78-	209.9	2.028-	4.12
Metropolitan	181,677	80.38	1,864	10.01-	209.3	2.063-	4.32+
Rural	122,101	98.65	1,119	9.43-	210.8	1.974-	3.71
California	2,477,248	93.71	28,707	11.60-	197.4	2.305	3.95
Metropolitan	2,330,007	93.36	27,147	11.64-	196.3	2.296	3.94
Rural	147,241	99.57	1,560	10.95	216.1	2.453	4.03
Alaska	16,348	99.78	145	9.80	150.3	1.451-	4.42
Metropolitan	5,625	99.75	57	11.78	99.7	1.112-	5.54
Rural	10,723	99.80	88	8.83	178.7	1.604	3.89
Hawaii	80,233	83.64	918	11.89	183.0	2.181	3.03-
Metropolitan	57,680	83.31	647	11.79	178.1	2.120	2.81-
Rural	22,553	84.47	271	12.11	194.4	2.326	3.63

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	319,368	11.96	197.7	2,364	3.89
Northeast	6,276,897	98.04	71,789	11.39-	194.4	2,217-	3.43-
New England	1,569,313	96.20	17,082	10.72-	189.2-	2,037-	3.41-
Maine	153,209	99.88	1,614	10.33-	183.1	1,900-	3.66
Bangor, ME	16,035	99.87	193	11.83	189.6	2,196	4.10
Lewiston-Auburn, ME	13,464	99.93	152	11.03	156.1	1,668	3.05
Portland, ME	52,846	99.89	505	9.41-	191.2	1,785-	3.64
New Hampshire	114,752	98.98	1,237	10.73-	196.3	2,171	3.69
Manchester, NH	44,397	97.91	468	10.38	182.0	1,938	3.69
Portsmouth, NH	29,738	99.52	306	10.37	203.9	2,226	3.68
Vermont	62,781	99.82	704	10.99	174.1	1,949	3.49
Burlington, VT	10,422	99.91	105	9.88	201.1	2,092	4.07
Massachusetts	709,478	93.75	8,115	11.13-	187.1	2,082-	3.41-
Boston, MA	429,794	95.67	4,990	11.20-	175.1-	1,959-	3.19-
New Bedford, MA	65,540	98.57	786	12.04	213.8	2,569	5.56+
Pittsfield, MA	20,281	91.00	241	11.66	202.0	2,358	3.12
Springfield, MA	72,225	92.57	624	11.25	231.8	2,560	3.48
Worcester, MA	71,185	79.42	731	9.89-	181.8	1,811-	2.75-
Rhode Island	132,332	97.59	1,522	11.43	180.8	2,082	3.27-
Providence, RI	132,332	97.59	1,522	11.43	180.8	2,082	3.27-
Connecticut	396,761	97.56	3,890	9.82-	200.0	1,968-	3.29-
Bridgeport, CT	96,911	96.63	973	10.04-	199.4	2,015	3.77
Hartford, CT	157,139	99.16	1,517	9.68-	202.3	1,982-	3.05-
New Haven, CT	102,964	95.31	976	9.47-	188.2	1,730-	3.04-
New London, CT	27,613	99.70	283	10.42	213.6	2,304	3.67

See notes at end of table.

Table 3. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Middle Atlantic	4,707,584	98.68	54,707	11.62-	196.1	2,278-	3.43-
New York	2,143,249	98.98	23,563	10.79-	195.7	2,117-	3.22-
Albany, NY	115,122	98.78	1,234	10.62-	175.8	1,895-	3.26-
Binghamton, NY	35,576	99.96	421	11.77	197.3	2,353	4.24
Buffalo, NY	134,451	98.66	1,450	11.01	213.8	2,390	4.72+
Elmira, NY	13,699	99.94	114	8.28-	231.4	1,962	4.51
Glens Falls, NY	15,222	99.63	168	10.89	183.1	2,006	2.97
Nassau-Suffolk, NY	297,143	99.88	3,280	11.23	202.0	2,301	3.30-
New York, NY	997,473	99.58	11,186	10.75-	189.7	2,025-	2.51-
Niagara Falls, NY	30,841	99.69	332	11.19	193.5	2,295	4.56
Orange County, NY	30,488	99.89	339	11.08	238.4	2,650	3.49
Poughkeepsie, NY	27,864	98.47	261	9.18-	198.3	1,811	3.65
Rochester, NY	102,542	88.80	1,025	9.76-	187.8	1,900-	3.81
Syracuse, NY	75,217	99.92	691	9.24-	224.6	2,087	4.38
Utica-Rome, NY	46,733	99.90	504	10.85	233.3	2,544	4.42
New Jersey	916,155	97.84	10,752	11.93	203.6	2,431	3.52-
Atlantic City, NJ	46,406	97.93	585	12.46	220.6	2,702	4.01
Bergen-Passaic, NJ	171,246	99.45	1,830	10.82-	207.0	2,260	3.36-
Jersey City, NJ	64,069	99.25	769	12.21	216.0	2,664	3.96
Middlesex, NJ	91,009	94.70	1,114	12.95	184.2	2,423	3.34-
Monmouth-Ocean, NJ	154,643	99.57	1,704	11.18	208.7	2,346	3.46-
Newark, NJ	211,511	99.40	2,624	12.43	199.1	2,464	3.57
Trenton, NJ	38,499	97.14	448	11.88	195.1	2,281	2.80-
Vineland, NJ	16,382	96.17	178	11.17	247.4	2,804	3.86
Pennsylvania	1,648,180	98.75	20,392	12.58+	192.6	2,415	3.69-
Allentown, PA-NJ	94,668	99.09	1,097	11.92	211.2	2,520	3.36-
Altoona, PA	20,692	99.99	247	11.91	223.8	2,649	3.60
Beaver County, PA	27,562	99.95	366	14.14	187.0	2,612	3.58
Erie, PA	35,244	99.92	425	12.53	213.8	2,723	5.45+
Harrisburg, PA	72,929	99.95	839	11.67	192.0	2,251	3.70
Johnstown, PA	40,260	99.97	496	12.85	216.9	2,822	3.77
Lancaster, PA	48,045	99.93	438	8.92-	182.0	1,649-	3.51
Philadelphia, PA-NJ	569,054	95.81	7,434	13.14+	182.4-	2,376	3.65-
Pittsburgh, PA	323,494	99.06	4,040	12.92+	195.0	2,518	3.74
Reading, PA	48,476	99.88	550	11.36	198.1	2,238	3.85
Scranton, PA	122,888	99.95	1,484	12.47	191.1	2,340	3.15-
Sharon, PA	19,009	99.97	227	12.22	230.5	2,878	3.55
State College, PA	10,032	99.97	113	11.42	205.9	2,445	4.03
Williamsport, PA	16,877	99.98	149	8.77-	266.6	2,232	3.81
York, PA	48,541	99.96	509	10.57	204.2	2,124	3.70

See notes at end of table.

Table 3. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
North Central	6,901,975	96.39	84,528	12.08	196.0	2,371	3.95
East North Central	4,745,430	97.76	57,874	12.22+	194.3	2,368	3.96
Ohio	1,263,869	99.46	15,301	12.25	193.3	2,343	3.97
Akron, OH	75,615	99.90	946	12.71	191.3	2,396	3.76
Canton, OH	51,895	99.97	579	11.41	195.1	2,219	3.91
Cincinnati, OH-KY-IN	159,407	99.96	1,937	12.06	179.3	2,145	3.66
Cleveland, OH	242,585	99.71	3,107	13.13+	173.2-	2,268	3.65
Columbus, OH	121,377	99.73	1,382	11.45	197.3	2,209	3.99
Dayton, OH	103,547	99.95	1,263	12.42	168.1-	2,078	3.95
Hamilton, OH	26,009	99.95	292	11.30	180.7	2,069	3.58
Lima, OH	19,579	99.97	204	10.38	219.9	2,186	4.43
Lorain-Elyria, OH	27,340	99.85	399	15.30+	219.8	3,180	3.82
Mansfield, OH	15,230	99.96	141	9.48	257.7	2,401	4.91
Wadsworth, OH	21,934	98.57	300	14.39	173.1	2,587	5.27+
Steubenville, OH-WV	70,660	99.95	917	12.99	207.1	2,697	4.89+
Toledo, OH	69,319	99.95	775	11.75	210.6	2,402	4.01
Youngstown, OH							
Indiana	623,062	97.86	7,816	12.57+	203.5	2,552+	4.44+
Anderson, IN	17,198	99.83	243	14.42	222.7	3,256	4.85
Bloomington, IN	7,913	99.87	72	9.06	274.2	2,524	6.28+
Elkhart-Goshen, IN	15,647	99.92	180	11.41	173.4	1,952	3.16
Evansville, IN-KY	34,434	95.72	441	12.66	204.6	2,668	4.14
Fort Wayne, IN	37,565	97.77	479	12.62	173.1	2,183	4.60
Gary-Hammond, IN	61,160	97.01	792	13.73	196.3	2,669	4.81+
Indianapolis, IN	118,407	93.81	1,530	12.88	199.4	2,536	3.77
Kokomo, IN	10,842	99.94	122	11.42	253.9	2,834	4.90
Lafayette, IN	11,228	99.92	130	11.38	228.3	2,602	5.36
Muncie, IN	13,759	99.91	170	12.50	228.6	2,842	3.95
South Bend, IN	33,170	99.93	347	10.45	183.5	1,939	4.75
Terre Haute, IN	19,585	99.89	236	11.90	256.5	3,096	5.53+
Illinois	1,265,011	95.90	15,855	12.46+	189.9	2,369	3.86
Aurora-Elgin, IL	30,946	98.68	376	11.96	190.6	2,226	4.26
Bloomington, IL	12,672	99.94	152	11.58	232.6	2,714	3.66
Champaign, IL	13,391	99.91	125	9.25	174.9	1,632	3.05
Chicago, IL	608,135	92.94	7,867	13.02+	183.7-	2,390	3.58-
Decatur, IL	15,992	99.97	211	12.94	168.6	2,142	3.98
Joliet, IL	28,047	97.18	351	12.72	188.7	2,388	4.33
Kankakee, IL	12,020	99.94	188	15.71	181.0	2,767	3.56
Lake County, IL	36,099	96.52	457	12.95	200.2	2,564	4.21
Peoria, IL	43,549	99.93	484	11.00	192.1	2,163	4.70
Rockford, IL	28,351	88.93	292	10.24	225.6	2,380	3.80
Springfield, IL	24,799	99.96	274	10.85	192.6	2,153	3.72

See notes at end of table.

Table 3. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Michigan	982,444	96.86	11,801	12.21	192.5	2.349	3.83
Ann Arbor, MI	17,760	95.12	187	10.39	187.8	1.886	3.83
Battle Creek, MI	16,831	99.89	219	12.97	206.3	2.731	3.59
Benton Harbor, MI	21,618	99.88	247	11.56	284.5+	3.344	4.87
Detroit, MI	448,826	96.43	5,949	13.58+	180.7-	2.442	3.64-
Flint, MI	43,084	91.01	552	12.96	190.4	2.422	4.24
Grand Rapids, MI	64,091	95.42	660	10.13-	189.6	1.902-	3.49
Jackson, MI	17,046	99.82	206	12.20	192.2	2.391	3.72
Kalamazoo, MI	21,512	99.85	183	8.47-	207.4	1.824	3.97
Lansing, MI	32,460	90.23	356	10.84	213.0	2.343	4.16
Muskegon, MI	18,957	98.06	202	10.95	183.7	2.033	4.35
Saginaw, MI	42,162	96.18	490	11.89	211.6	2.542	4.38
Wisconsin	611,044	99.60	7,101	11.39-	199.1	2.263	3.91
Appleton, WI	34,483	99.96	410	11.69	168.1	1.950	3.29
Eau Claire, WI	16,955	99.94	189	10.87	184.2	2.028	3.03
Green Bay, WI	19,185	99.97	247	12.80	204.5	2.647	4.38
Janesville, WI	16,529	99.85	173	10.17	212.5	2.164	3.97
Kenosha, WI	14,291	99.91	152	10.64	163.6	1.678	3.76
LaCrosse, WI	11,858	99.91	164	13.32	261.3	3.368	4.40
Madison, WI	30,776	99.74	290	9.16-	177.4	1.598-	3.86
Milwaukee, WI	166,813	99.21	2,030	11.96	187.6	2.211	3.94
Racine, WI	20,503	99.90	229	11.09	242.2	2.703	3.93
Sheboygan, WI	14,461	99.98	159	10.79	242.5	2.688	5.10
Wausau, WI	12,945	99.95	128	9.84	213.4	2.128	4.07
West North Central	2,156,545	93.50	26,654	11.79	199.5	2.377	3.93
Minnesota	397,258	77.30	4,621	10.91-	215.5+	2.378	4.28+
Duluth, MN-WI	29,977	76.74	360	11.79	229.0	2.764	4.93+
Minneapolis, MN-WI	141,769	64.45	1,631	10.66-	210.0	2.233	4.25+
Rochester, MN	9,393	99.67	92	9.20	154.4	1.483	2.98
St. Cloud, MN	12,248	70.92	134	10.13	186.0	1.803	3.59
Iowa	404,057	99.37	4,692	11.06-	194.6	2.162-	3.93
Cedar Rapids, IA	19,323	99.94	218	11.00	193.5	2.203	4.29
Davenport, IA-IL	44,646	99.94	536	11.92	224.9	2.692	3.88
Des Moines, IA	40,067	94.50	446	10.80	139.8-	1.523-	2.96-
Dubuque, IA	11,460	99.95	118	9.97	165.3	1.698	4.72
Iowa City, IA	6,240	99.90	75	11.50	149.6	1.838	5.25
Sioux City, IA-NE	15,951	99.96	177	10.55	197.6	2.097	4.08
Waterloo, IA	19,521	99.96	257	12.90	185.4	2.389	4.23

See notes at end of table.

Table 3. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Missouri	655,875	98.17	8,875	13.15+	186.7-	2,470	3.86
Columbia, MO	8,560	99.98	110	12.53	185.5	2,260	2.78
Joplin, MO	19,275	99.95	232	11.96	288.7+	3,430	4.87
Kansas City, MO-KS	154,919	95.72	2,092	13.18+	175.8-	2,347	3.33-
St. Joseph, MO	13,630	99.97	150	10.61	235.0	2,380	3.63
St. Louis, MO-IL	283,167	97.43	3,720	12.91+	187.2	2,405	3.93
Springfield, MO	27,676	99.94	328	11.61	205.4	2,476	4.43
North Dakota	85,433	98.28	1,141	12.79	159.6-	2,112	3.52
Bismarck, ND	8,160	95.13	124	14.80	113.3-	1,668	3.04
Fargo, ND-MN	14,138	96.57	188	12.52	166.9	2,120	3.59
Grand Forks, ND	5,687	99.95	55	9.17	151.1	1,461	2.72
South Dakota	96,216	99.59	1,185	11.67	195.0	2,362	3.89
Rapid City, SD	7,152	99.89	56	7.86-	200.3	1,686	2.96
Sioux Falls, SD	13,275	99.93	154	11.19	169.5	1,855	3.27
Nebraska	209,910	98.52	2,449	11.00-	219.2	2,440	3.70
Lincoln, NE	20,994	98.50	182	8.26-	175.4	1,431-	3.08
Omaha, NE-IA	57,609	95.39	688	11.66	181.0	2,074	3.04-
Kansas	307,796	95.82	3,691	11.41	216.3+	2,497	3.77
Lawrence, KS	4,965	87.78	59	11.24	316.1	3,372	4.67
Topeka, KS	18,983	97.26	204	10.15	235.2	2,340	3.56
Wichita, KS	45,844	88.57	553	11.77	198.1	2,356	4.21
South	8,980,101	97.94	114,225	12.83+	200.2	2,563+	4.22+
South Atlantic	4,668,855	96.31	56,231	12.27+	200.5	2,450+	4.11+
Delaware	70,251	99.94	768	11.28	189.7	2,137	2.64-
Wilmington, DE-NJ-MD	58,114	99.65	649	11.54	183.5	2,114	2.59-
Maryland	436,606	99.49	5,194	12.17	175.1-	2,086-	3.82
Baltimore, MD	244,878	99.90	2,975	12.45	176.8-	2,146	3.65
Cumberland, MD-WV	17,051	99.95	255	15.22	107.7-	1,572-	3.63
Hagerstown, MD	14,522	99.95	136	9.48	173.6	1,680	3.74
District of Col.	66,196	99.75	692	10.04-	160.2-	1,510-	3.35-
Washington, DC-MD-VA	261,121	99.05	2,826	10.98-	173.1-	1,861-	3.63

See notes at end of table.

Table 3. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	7,106	12.85+	198.1	2,527	4.33+
Charlottesville, VA	12,020	99.92	161	13.35	208.2	2,905	5.60
Danville, VA	15,532	99.99	167	11.07	221.0	2,414	5.08
Lynchburg, VA	18,110	99.99	202	11.16	200.1	2,220	4.98
Norfolk, VA	102,601	99.96	1,337	13.55+	203.1	2,733	3.85
Richmond, VA	85,698	99.98	1,114	13.24	194.5	2,549	4.85+
Roanoke, VA	30,622	99.98	351	11.23	163.5	1,812	3.69
West Virginia	244,259	98.98	3,253	13.42+	228.1+	3,060+	4.19
Charleston, WV	34,215	99.96	385	11.55	262.6+	3,046	3.58
Huntington, WV-KY-OH	40,891	99.95	546	13.40	196.3	2,610	4.33
Parkersburg, WV-OH	19,888	99.94	289	14.36	278.1+	4,088+	4.77
Wheeling, WV-OH	22,016	82.51	271	12.35	171.7	2,057	3.71
North Carolina	689,138	99.93	8,162	12.25	207.9	2,557+	4.81+
Asheville, NC	24,469	99.92	227	9.16-	198.7	1,886	4.19
Burlington, NC	14,505	99.99	128	9.26	177.0	1,712	4.12
Charlotte, NC	109,337	99.79	1,203	11.44	209.3	2,384	4.78+
Fayetteville, NC	13,388	99.98	145	11.70	243.2	2,794	6.53+
Greensboro, NC	99,387	99.97	1,104	11.40	202.3	2,336	4.94+
Hickory, NC	23,392	99.97	236	10.64	158.1	1,680	2.82-
Jacksonville, NC	5,134	99.86	56	12.00	213.6	2,493	5.51
Raleigh-Durham, NC	56,484	99.86	623	11.24	192.1	2,174	4.19
Wilmington, NC	12,634	99.97	130	10.88	246.7	2,611	5.85+
South Carolina	329,020	99.44	4,289	13.71+	215.3+	2,898+	5.40+
Anderson, SC	16,583	99.70	178	11.25	168.9	1,896	4.26
Charleston, SC	34,246	98.90	397	12.30	199.3	2,441	4.33
Columbia, SC	35,361	99.98	386	11.49	174.3	1,938	5.33+
Florence, SC	11,195	99.96	219	20.89+	240.7	4,945+	6.63+
Greenville, SC	65,893	98.01	702	11.16	201.0	2,187	4.41
Georgia	561,716	99.71	8,262	15.10+	207.1	3,111+	5.23+
Albany, GA	9,292	99.92	160	17.90+	255.3	4,630+	5.87+
Athens, GA	13,510	99.96	180	13.50	225.1	2,906	4.58
Atlanta, GA	189,539	99.27	2,607	14.12+	201.2	2,856+	5.21+
Augusta, GA-SC	32,938	99.93	446	14.18	201.8	2,856	4.91+
Columbus, GA-AL	22,847	99.96	295	13.55	258.8	3,437+	6.11+
Macon, GA	25,929	99.97	309	12.42	259.6	3,085	5.03+
Savannah, GA	25,338	99.94	392	16.04+	148.4-	2,358	4.84

See notes at end of table.

Table 3. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Florida	1,705,534	90.97	18,505	10.91-	195.9	2,151-	3.41-
Bradenton, FL	42,906	99.68	415	9.48-	245.9	2,304	3.03-
Daytona Beach, FL	62,616	92.90	695	11.11	198.6	2,207	3.55
Fort Lauderdale, FL	181,839	81.09	1,810	9.68-	185.6	1,813-	2.66-
Fort Myers, FL	61,428	99.65	573	9.89-	182.8	1,846-	2.93-
Fort Pierce, FL	41,198	99.28	398	10.33	187.1	1,881	3.65
FT. Walton Beach, FL	10,169	99.88	121	13.07	127.1	1,699	2.28-
Gainesville, FL	16,758	99.58	223	13.58	248.4	3,309	5.85+
Jacksonville, FL	80,895	98.22	993	12.61	209.9	2,586	4.42
Lakeland, FL	55,495	99.56	622	11.55	194.9	2,229	4.09
Melbourne, FL	46,501	99.72	519	12.05	180.4	2,229	3.30
Miami-Hialeah, FL	168,502	79.57	2,059	11.36	180.4	2,091	2.72-
Naples, FL	23,433	99.75	219	10.03	197.2	2,016	3.88
Ocala, FL	31,367	99.50	277	9.65-	216.9	2,082	5.41+
Orlando, FL	90,604	98.55	985	11.17	219.3	2,452	3.54
Panama City, FL	11,817	99.70	131	11.86	221.9	2,525	4.04
Pensacola, FL	29,972	99.89	388	13.64	188.9	2,488	3.81
Sarasota, FL	77,895	99.81	757	9.72-	174.9	1,753-	3.47
Tallahassee, FL	17,414	97.85	233	13.55	187.9	2,525	3.77
Tampa, FL	323,951	87.05	3,538	10.75-	209.0	2,266	3.73
West Palm Beach, FL	139,729	85.22	1,336	9.59-	188.5	1,837-	3.28-
East South Central	1,726,272	99.80	24,800	14.37+	200.5	2,670+	4.63+
Kentucky	422,657	99.70	5,662	13.37+	204.6	2,724+	4.55+
Lexington, KY	31,008	98.87	352	11.31	185.5	2,085	3.34
Louisville, KY-IN	107,485	99.20	1,264	11.81	230.8+	2,702	4.75+
Owensboro, KY	10,319	99.96	113	11.12	258.2	2,796	4.97
Tennessee	550,327	99.65	8,089	14.80+	193.1	2,877+	4.68+
Chattanooga, TN-GA	50,061	99.97	652	13.19	227.3	2,997+	4.67+
Clarksville, TN-KY	12,541	99.91	141	11.19	173.9	1,888	4.89
Jackson, TN	10,064	99.95	135	12.92	163.5	2,189	3.93
Johnson City, TN-VA	55,068	99.97	719	13.39	201.3	2,757	4.38
Knoxville, TN	70,970	99.96	852	12.28	208.8	2,592	4.29
Memphis, TN-AR-MS	88,836	98.06	1,343	15.06+	186.7	2,752	5.01+
Nashville, TN	92,994	99.96	1,291	13.90+	172.2	2,376	4.27

See notes at end of table.

Table 3. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Alabama	463,131	99.97	6,612	14.39+	192.8	2,761+	4.74+
Anniston, AL	13,124	99.97	183	14.56	190.1	2,708	5.09
Birmingham, AL	108,546	99.98	1,514	13.95+	181.5	2,526	4.32
Dothan, AL	12,690	99.94	156	12.53	155.8	1,956	3.63
Florence, AL	16,687	99.97	219	13.45	151.8	1,993	4.32
Gadsden, AL	14,295	99.97	206	15.13	183.9	2,666	4.48
Huntsville, AL	17,137	99.96	231	14.06	221.7	3,134	4.70
Mobile, AL	50,513	99.96	672	13.71	188.2	2,541	4.03
Montgomery, AL	29,832	99.97	384	12.90	220.4	2,753	4.72
Tuscaloosa, AL	13,604	99.99	191	13.99	172.5	2,406	3.91
Mississippi	290,157	99.98	4,437	14.97+	220.0+	3,227+	4.49+
Biloxi-Gulfport, MS	18,079	99.97	203	11.73	197.4	2,177	2.67-
Jackson, MS	35,305	99.98	422	11.75	215.8	2,595	3.69
Pascagoula, MS	8,556	99.88	106	13.33	241.5	3,124	3.76
West South Central	2,584,974	99.74	33,194	12.80+	199.6	2,553+	4.16+
Arkansas	321,739	99.96	4,234	13.08+	210.0	2,744+	4.49+
Fayetteville, AR	11,803	99.95	129	10.86	143.8	1,585	3.09
Fort Smith, AR-OK	21,413	99.98	262	12.26	214.6	2,643	3.61
Little Rock, AR	50,966	99.99	625	12.31	187.2	2,317	4.60
Pine Bluff, AR	11,012	99.98	139	12.19	203.4	2,389	4.82
Louisiana	415,968	99.98	6,006	14.34+	183.3-	2,579+	4.14+
Alexandria, LA	13,819	99.96	158	11.21	136.0	1,470-	3.10
Baton Rouge, LA	39,583	99.97	515	13.33	167.2	2,200	3.09-
Houma-Thibodaux, LA	13,501	100.00	159	12.45	226.6	2,741	3.60
Lafayette, LA	14,620	99.99	160	11.07	186.1	2,033	4.07
Lake Charles, LA	16,436	99.98	251	15.90+	208.4	3,240	3.76
Monroe, LA	14,648	99.99	246	16.38+	156.9	2,490	3.97
New Orleans, LA	118,708	99.98	1,634	13.84+	191.3	2,598	4.05
Shreveport, LA	36,822	99.98	516	13.61	168.1	2,310	3.96
Oklahoma	378,716	99.02	5,183	13.39+	197.4	2,664+	4.70+
Enid, OK	8,215	99.94	109	12.72	216.3	2,980	4.80
Lawton, OK	8,221	99.99	123	15.51	168.6	2,692	4.47
Oklahoma City, OK	88,646	97.45	1,163	12.90	183.8	2,376	5.00+
Tulsa, OK	71,032	98.13	856	12.01	202.3	2,408	4.41

See notes at end of table.

Table 3. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Texas	1,468,551	99.81	17,771	12.14	203.2	2,473+	3.95
Abilene, TX	13,100	99.96	177	13.24	198.6	2,591	3.87
Amarillo, TX	19,063	99.97	210	11.21	224.9	2,608	2.80-
Austin, TX	47,578	99.95	542	11.33	189.6	2,138	3.96
Beaumont, TX	42,323	99.98	590	14.14	195.2	2,741	4.15
Brazoria, TX	12,486	99.78	175	14.92	204.7	2,983	3.53
Brownsville, TX	20,169	99.86	196	9.91	253.4	2,357	3.71
Bryan, TX	6,955	99.96	80	11.33	212.1	2,389	5.08
Corpus Christi, TX	28,417	95.56	327	11.83	226.3	2,708	3.83
Dallas, TX	172,118	99.95	1,994	11.70	210.2	2,463	4.07
El Paso, TX	37,292	99.94	336	9.33-	185.7	1,792-	4.17
Fort Worth, TX	97,947	99.96	1,065	11.03	180.5	2,024	4.22
Galveston, TX	19,376	99.94	244	13.08	179.7	2,242	3.17
Houston, TX	187,992	99.85	2,342	12.83	179.2	2,277	4.12
Killeen-Temple, TX	17,182	99.97	204	11.83	203.6	2,437	2.87-
Laredo, TX	8,421	99.99	67	7.78-	230.5	1,688	2.66
Longview, TX	20,547	99.98	250	11.97	285.6+	3,338	4.81
Lubbock, TX	18,957	99.97	250	13.38	190.2	2,493	2.76-
McAllen, TX	27,402	99.82	254	9.53-	165.6	1,605-	2.18-
Midland, TX	7,362	99.96	63	8.89	228.3	2,042	1.79-
Odessa, TX	9,207	99.99	76	8.83	219.2	1,934	2.16-
San Angelo, TX	11,213	99.99	112	9.90	254.6	2,654	6.76+
San Antonio, TX	107,989	99.28	1,223	11.41	195.8	2,249	3.67
Sherman-Denison, TX	14,532	99.99	212	14.34	175.7	2,636	4.04
Texarkana, TX-AR	15,315	99.99	209	13.41	220.3	2,850	4.57
Tyler, TX	18,223	99.98	238	13.21	218.7	2,810	5.08
Victoria, TX	6,871	99.97	84	12.57	194.2	2,554	4.08
Waco, TX	23,624	99.99	281	11.68	260.8	3,061	4.73
Wichita Falls, TX	14,462	99.97	156	10.55	209.0	2,162	4.37
West	4,539,951	93.08	48,826	10.84-	199.4	2,168-	3.77-
Mountain	1,200,638	94.36	11,217	9.57-	202.6	1,945-	3.35-
Montana	97,248	99.90	1,031	10.66-	201.0	2,174	3.86
Billings, MT	12,097	99.88	121	10.20	181.8	1,790	3.27
Great Falls, MT	9,076	99.91	102	11.37	165.1	1,894	2.24-
Idaho	109,822	99.77	1,033	9.54-	206.8	1,996-	4.01
Boise City, ID	18,471	99.90	149	8.22-	186.1	1,497-	3.49
Wyoming	42,408	99.91	400	9.49-	223.9	2,186	3.77
Casper, WY	5,379	99.91	34	6.49-	176.5	1,155-	3.58
Cheyenne, WY	6,886	99.96	54	7.97	331.3	2,516	3.63

See notes at end of table.

Table 3. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Colorado	266,663	94.73	2,289	8.55-	191.8	1.654-	3.24-
Boulder-Longmont, CO	15,143	97.96	118	7.58-	180.7	1.401-	3.59
Colorado Springs, CO	24,899	95.03	209	8.64-	226.9	2.025	3.66
Denver, CO	119,624	94.10	1,074	8.97-	186.6	1.686-	3.30-
Fort Collins, CO	15,089	99.71	130	8.55-	263.7	2.219	3.12
Greeley, CO	11,610	99.62	74	6.33-	203.3	1.262-	3.08
Pueblo, CO	15,372	94.43	140	9.15	121.5-	1.104-	2.77-
New Mexico	125,371	92.49	1,139	9.22-	232.6+	2.181	2.95-
Albuquerque, NM	33,783	81.01	262	7.94-	250.5	1.998	3.34
Las Cruces, NM	9,375	99.94	91	10.03	148.1	1.553	2.96
Santa Fe, NM	8,454	93.66	60	7.20-	227.8	1.676	2.48-
Arizona	348,748	91.33	3,375	10.11-	181.5	1.822-	2.94-
Phoenix, AZ	187,381	86.74	1,841	10.17-	174.4-	1.767-	2.82-
Tucson, AZ	70,550	96.06	677	9.85-	194.0	1.917-	3.15-
Utah	128,579	99.92	1,188	9.41-	230.9+	2.148	4.00
Provo-Orem, UT	16,076	99.93	172	11.00	144.0	1.666	3.92
Salt Lake City, UT	77,243	99.94	676	8.92-	252.6+	2.204	4.10
Nevada	81,799	86.15	762	10.26-	222.8	2.301	3.48
Las Vegas, NV	45,252	82.98	449	11.09	208.4	2.286	3.11-
Reno, NV	19,133	89.17	159	8.94-	251.3	2.251	4.07
Pacific	3,339,313	92.62	37,609	11.29-	198.5	2.247-	3.91
Washington	461,706	92.41	4,856	10.53-	202.2	2.119-	3.73
Bellingham, WA	13,629	99.51	145	10.44	283.1	2.976	4.18
Bremerton, WA	15,439	96.59	157	10.30	186.1	1.967	3.78
Olympia, WA	14,254	90.98	141	9.86	209.5	2.094	3.66
Richland, WA	12,559	99.85	128	10.84	190.2	2.006	4.32
Seattle, WA	159,828	86.57	1,713	10.64-	194.3	2.045-	3.56
Spokane, WA	41,237	94.51	405	9.63-	210.7	2.024	4.15
Tacoma, WA	50,245	97.24	519	10.43	208.0	2.163	3.62
Vancouver, WA	17,048	80.32	204	12.17	171.4	2.031	3.38
Yakima, WA	22,738	99.74	243	10.62	218.1	2.289	4.29
Oregon	303,778	86.84	2,983	9.78-	209.9	2.028-	4.12
Eugene, OR	28,947	88.67	307	10.71	241.1	2.473	4.46
Medford, OR	20,326	99.78	183	9.16-	192.4	1.752	4.36
Portland, OR	99,155	72.79	1,007	9.76-	203.1	1.945-	4.38+
Salem, OR	33,249	90.39	367	10.68	209.0	2.255	3.97

See notes at end of table.

Table 3. Stroke: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
California	2,477,248	93.71	28,707	11.60-	197.4	2,305	3.95
Anaheim-Santa Ana, CA	167,171	89.39	2,030	11.99	200.7	2,473	3.67
Bakersfield, CA	44,969	99.76	548	12.69	183.3	2,340	3.43
Chico, CA	27,102	99.09	293	11.05	163.4	1,850	3.62
Fresno, CA	58,425	99.90	615	10.48	204.1	2,016	3.12-
Los Angeles, CA	677,939	91.40	8,551	12.47	188.0	2,341	3.98
Merced, CA	13,462	99.86	156	12.01	199.2	2,404	3.63
Modesto, CA	33,619	98.80	353	10.68	254.9	2,636	4.74
Oakland, CA	188,258	99.08	2,438	12.98+	190.9	2,495	4.19
Oxnard-Ventura, CA	49,488	93.74	508	10.41	214.2	2,288	3.62
Redding, CA	17,796	99.73	148	8.80-	246.6	2,065	3.54
Riverside, CA	203,246	90.92	2,396	11.99	215.9	2,603	4.31+
Sacramento, CA	120,273	91.81	1,250	10.69-	201.6	2,178	3.93
Salinas, CA	29,131	99.86	261	8.99-	276.0+	2,512	4.30
San Diego, CA	205,402	91.35	1,986	9.77-	186.6	1,843-	3.62
San Francisco, CA	163,753	89.02	2,017	11.91	194.8	2,323	4.22
San Jose, CA	105,258	99.50	1,037	9.93-	194.5	1,915-	3.44-
Santa Barbara, CA	38,021	99.70	365	9.37-	202.4	1,974	3.92
Santa Cruz, CA	24,640	99.77	280	10.89	179.6	1,972	3.98
Santa Rosa, CA	44,775	99.49	573	12.69	177.3	2,373	4.46
Stockton, CA	40,855	91.54	492	12.01	217.3	2,585	4.07
Vallejo, CA	35,778	98.59	399	11.24	197.2	2,256	4.46
Visalia, CA	26,811	99.91	327	11.42	157.5	1,766	3.14
Yuba City, CA	11,835	99.35	124	10.86	321.5+	3,625	5.51
Alaska	16,348	99.78	145	9.80	150.3	1,451-	4.42
Anchorage, AK	5,625	99.75	57	11.78	99.7	1,112-	5.54
Hawaii	80,233	83.64	918	11.89	183.0	2,181	3.03-
Honolulu, HI	57,680	83.31	647	11.79	178.1	2,120	2.81-

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Pneumonia and influenza

In 1986, the principal diagnosis for 413,840 discharges was pneumonia or influenza (P&I), giving an overall rate of 15.50 discharges per 1,000 enrollees. The 30-day post-admission mortality rate was 163.5 deaths per 1,000 discharges, or slightly more than 16 percent. The 30-day post-admission mortality rate per 1,000 enrollees was 2.53, quite close to the total P&I death rate per 1,000 aged persons.

Age and sex patterns

For all age groups combined, men were more likely than women to be discharged with a principal diagnosis of P&I. As shown in Table 1, the discharge rate for men was nearly 40 percent higher than that for women (18.62 versus 13.42). The 30-day post-admission mortality rate for men was nearly 28 percent greater than that for women (184.4 versus 144.2).

For all persons combined as well as for men and women separately, the discharge rate and the population mortality rate increased markedly with age. The discharge rate for enrollees 85 years or over was four to five times greater than the rate for enrollees 65-74 years (Table 1). The 30-day post-admission death rate per 1,000

discharges for persons 85 years or over was two to three times greater than the rate for persons 65-74 years. Because the discharge rate and 30-day post-admission deaths per

1,000 discharges increased so markedly with age, the overall impact of the disease with increasing age as measured by the 30-day post-admission death rate per 1,000 enrollees is dramatic: The rate is 10 to 12 times as great for persons 85 years and over as for persons 65-74 years.

Patterns by race

Overall, white persons had a discharge rate for P&I that was about 21 percent higher than that for black persons (15.79 versus 13.02). A higher rate for white persons held true for all age-sex groups except men 65-74 years of age. The 30-day post-admission mortality rates per 1,000 discharges across age-sex groups, however, were higher for black persons except for white women 85 years or over, who had a higher rate than black women this age. The 30-day post-admission mortality rates per 1,000 enrollees across age-sex groups had the reverse pattern; that is, the rate was higher for white than black persons. The exception was black men in the age group 65-74 years, whose rate was higher than that for white men.

Variations by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region, division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan

statistical area (MSA) level are shown in Table 3. Figures 1-3 were derived from the data in these tables.

Discharge rates

In 1986, the rates of discharges ranged from 8.22 discharges per 1,000 enrollees in the District of Columbia and 10.63 per 1,000 in Oregon to 25.67 per 1,000 enrollees in Kentucky. The District of Columbia's low rate may result in part from incomplete reporting of discharges. As shown in Figure 1, in 1986, the highest P&I discharge rates occurred in several Southern States and in North Dakota, South Dakota, Wyoming, and New Mexico. The lowest discharge rates were scattered across the country, with rates in Oregon, Delaware, Hawaii, Florida, and the District of Columbia all less than 11 discharges per 1,000 enrollees. The lowest rates were found in the Middle Atlantic and Pacific Divisions. The highest rates were found in the East South Central and West South Central Divisions.

The distribution of MSAs and rural areas by discharge rates across and within U.S. census divisions is shown in the boxplots in Figure 2. In line with the map in Figure 1, the census divisions with the highest median discharge rates were the East South Central and West South Central; the divisions with the lowest discharge rates were the Middle Atlantic, South Atlantic, and Pacific.

NOTE: Pneumonia and influenza is ICD-9-CM codes 480-487.

Population death rates

The States with the highest number of deaths per 1,000 persons for P&I were scattered across the country (Figure 3). Vermont had the highest rate of deaths per 1,000 persons (2.91), followed by Massachusetts (2.76). The States with the lowest rates were also scattered across the country. Florida had the lowest rate (1.23 deaths per 1,000 persons), followed by Idaho (1.70).

Correlations between rates

Correlation coefficients were computed between the discharge rates in the MSAs and rural areas and the various mortality rates studied. If the death rates from P&I in a particular year reflect the disease burden in an area in that year, then it is appropriate that there was a positive correlation ($r = 0.24$) between the death rate per 1,000 persons and the number of discharges per 1,000 enrollees for P&I. On the other hand, discharge rates per 1,000 enrollees were inversely correlated with 30-day mortality per 1,000 discharges ($r = -0.23$). This result likely indicates that, as the number of discharges (admissions) increases, a higher proportion of less severely ill patients are being admitted to the hospital.

Urban-rural patterns

Of the 48 States with both metropolitan and rural counties, all but three (Alaska, Nevada, and Massachusetts) had higher discharge rates for P&I in the rural than the metropolitan counties. With the exception of Massachusetts, Kansas, Delaware, West Virginia, Idaho, Oregon, and Nevada, the 30-day post-admission death rates per 1,000 discharges were lower in the rural areas than in the MSAs combined.

Table 1. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

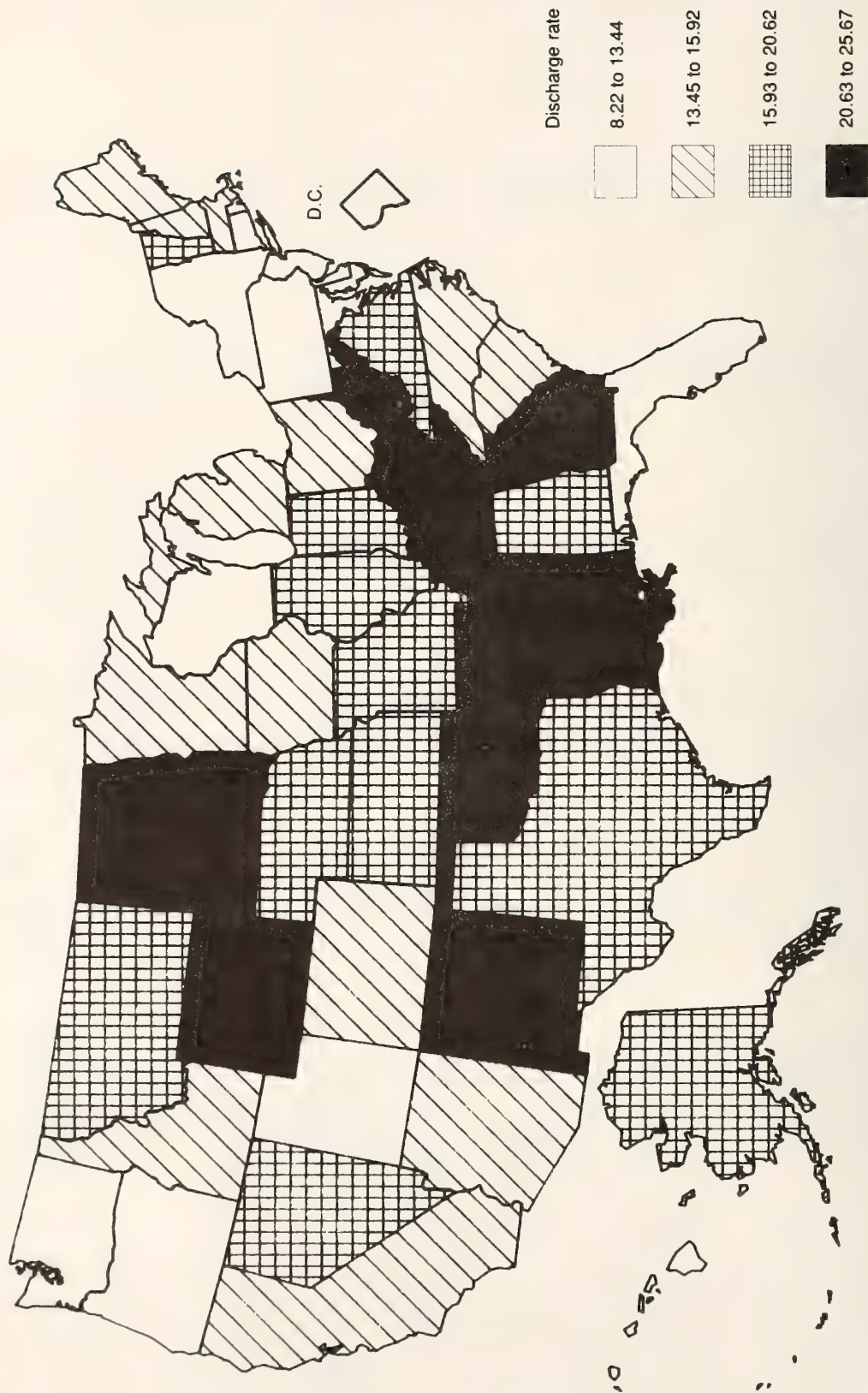
Age, sex, and race	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
All persons (1)	26,698,924	96.70	413,840	15.50	163.5	2.53	2.08
65-74 years	16,162,594	96.33	149,336	9.23	107.0	0.99	0.58
75-84 years	8,020,447	96.96	163,513	20.38	165.8	3.38	2.42
85 years or over	2,515,883	98.32	100,991	40.14	243.3	9.77	10.32
Men	10,650,991	96.01	198,331	18.62	184.4	3.43	2.41
65-74 years	7,056,445	95.90	77,120	10.92	132.6	1.45	0.81
75-84 years	2,912,366	96.02	82,051	28.17	193.7	5.46	3.42
85 years or over	682,180	97.22	39,160	57.40	267.2	15.34	13.60
Women	16,047,933	97.16	215,509	13.42	144.2	1.94	1.85
65-74 years	9,106,149	96.66	72,216	7.93	79.6	0.63	0.40
75-84 years	5,108,081	97.51	81,462	15.94	137.7	2.20	1.83
85 years or over	1,833,703	98.74	61,831	33.71	228.2	7.59	9.02
White	23,574,066	96.62	372,380	15.79	163.6	2.59	2.12
65-74 years	14,207,064	96.23	132,480	9.32	105.8	0.99	0.56
75-84 years	7,134,499	96.88	147,821	20.71	165.6	3.43	2.43
85 years or over	2,232,503	98.26	92,079	41.24	243.8	10.05	10.64
Men	9,391,016	95.94	177,109	18.85	185.0	3.49	2.42
65-74 years	6,216,472	95.83	67,834	10.91	131.6	1.44	0.78
75-84 years	2,573,989	95.94	73,602	28.59	194.2	5.55	3.42
85 years or over	600,555	97.12	35,673	59.40	267.4	15.88	14.02
Women	14,183,050	97.07	195,271	13.76	144.3	1.99	1.91
65-74 years	7,990,592	96.55	64,646	8.09	78.8	0.64	0.39
75-84 years	4,560,510	97.42	74,219	16.27	137.1	2.23	1.85
85 years or over	1,631,948	98.69	56,406	34.56	228.8	7.91	9.33
Black	1,991,943	97.86	25,950	13.02	174.3	2.27	1.82
65-74 years	1,213,014	97.54	10,385	8.56	130.1	1.11	0.83
75-84 years	583,429	98.11	9,734	16.68	180.7	3.01	2.44
85 years or over	195,500	99.11	5,831	29.82	242.2	7.22	6.75
Men	792,788	97.49	13,592	17.14	191.4	3.28	2.45
65-74 years	519,305	97.28	5,974	11.50	153.7	1.77	1.25
75-84 years	215,401	97.67	5,255	24.39	199.8	4.87	3.51
85 years or over	58,082	98.74	2,363	40.68	268.3	10.92	9.67
Women	1,199,155	98.10	12,358	10.30	155.4	1.60	1.39
65-74 years	693,709	97.74	4,411	6.35	98.2	0.62	0.52
75-84 years	368,028	98.37	4,479	12.17	158.3	1.93	1.78
85 years or over	137,418	99.26	3,468	25.23	224.3	5.66	5.41

(1) Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

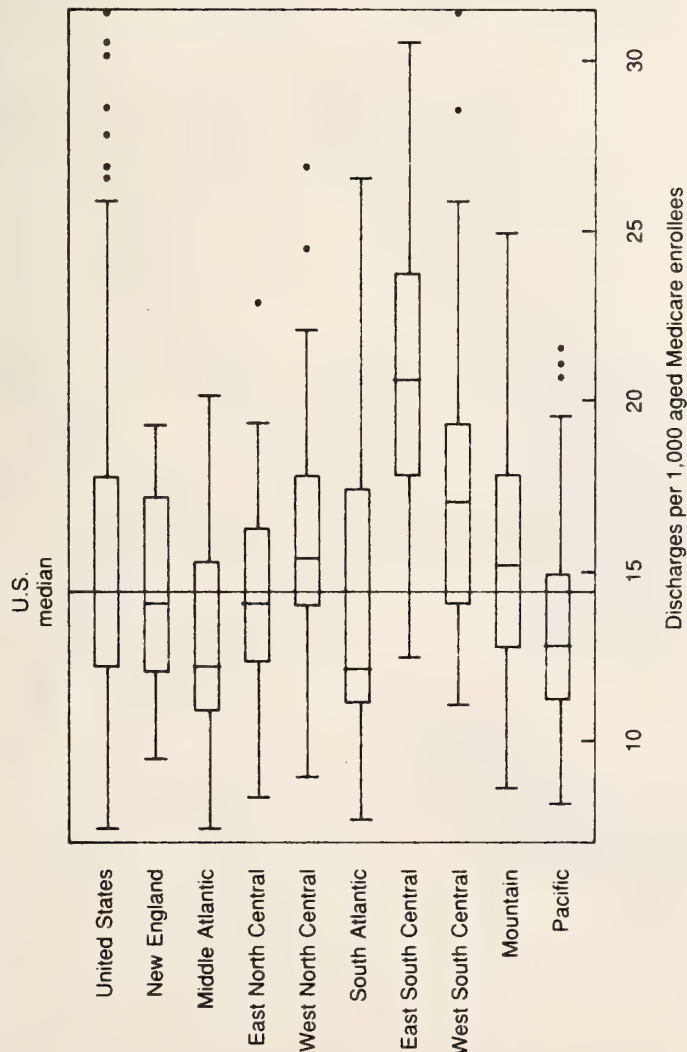
SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Figure 1. Pneumonia and influenza: Short-stay hospital discharges per 1,000 aged Medicare enrollees, by State: 1986



NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included.
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Figure 2. Pneumonia and influenza: Short-stay hospital discharges per 1,000 aged Medicare enrollees for rural and metropolitan statistical areas, by division: United States, 1986

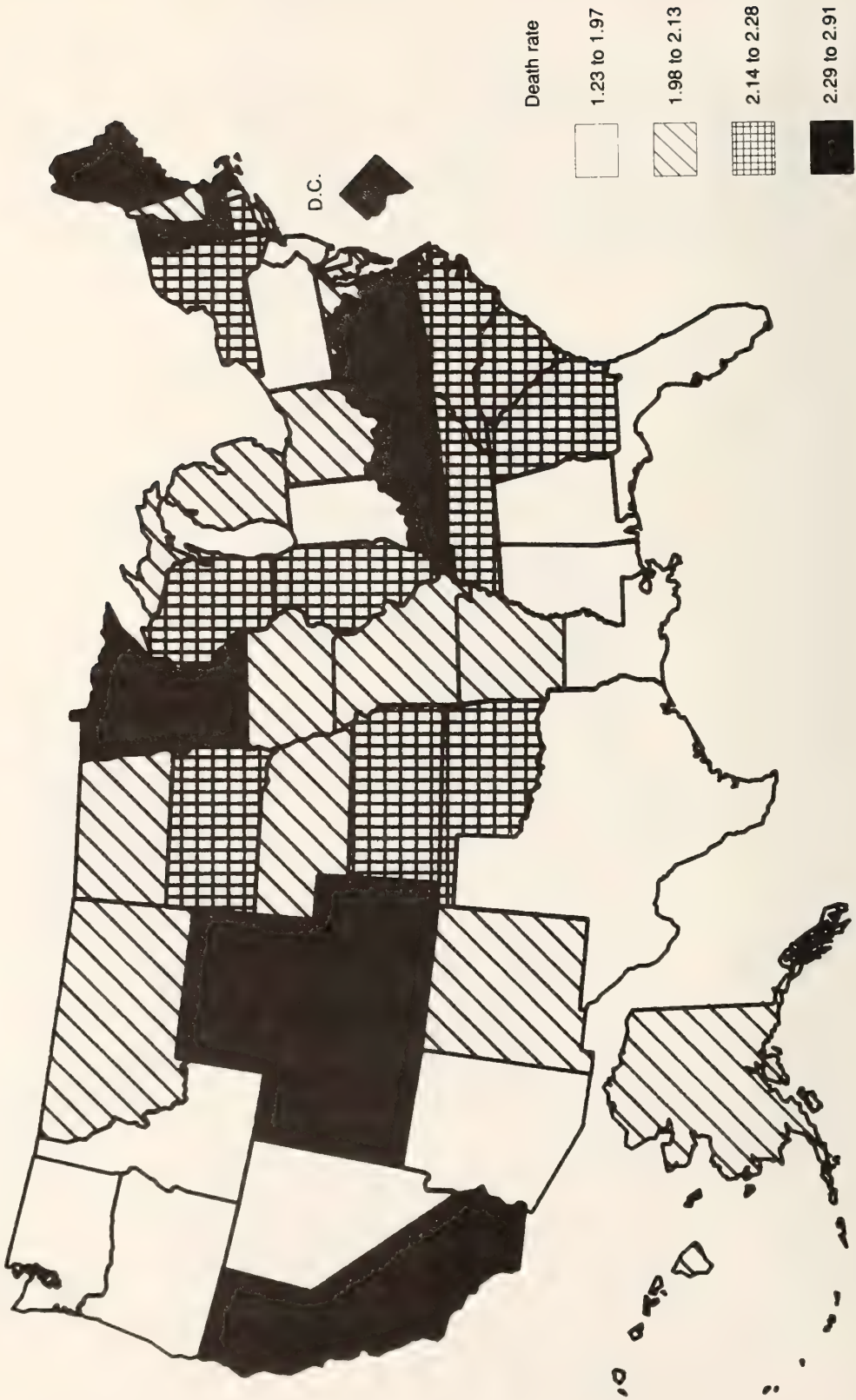


Outliers for discharges per 1,000 enrollees

Area	Rural or metropolitan statistical area	Rate
United States	Rural counties, GA	26.49
	Rural counties, SD	26.87
	Gadsden, AL	27.73
	Rural counties, LA	28.57
	Rural counties, KY	30.14
	Rural counties, TN	30.49
	Monroe, LA	31.37
East North Central	Steubenville, OH-WV	22.91
West North Central	Rural counties, ND	24.48
	Rural counties, SD	26.87
West South Central	Rural counties, LA	28.57
	Monroe, LA	31.37
Pacific	Visalia, CA	20.68
	Anchorage, AK	21.02
	Bakersfield, CA	21.50

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Figure 3. Pneumonia and influenza: Deaths per 1,000 aged population, by State: 1986



SOURCES: Population death rates were derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
United States	26,698,924	96.70	413,840	15.50	163.5	2.533	2.09
Metropolitan	19,363,284	95.80	263,346	13.67-	173.0+	2.383-	2.07
Rural	7,335,640	99.16	150,494	20.23+	146.5-	2.917+	2.14+
Northeast	6,276,897	98.04	82,934	13.20-	169.1+	2.272-	2.20+
Metropolitan	5,564,648	97.84	70,920	12.73-	174.0+	2.264-	2.20+
Rural	712,249	99.69	12,014	16.80+	139.3-	2.330-	2.17
New England	1,569,313	96.20	22,918	14.42-	162.4	2.383-	2.45+
Metropolitan	1,342,886	95.66	19,286	14.19-	166.8	2.417-	2.45+
Rural	226,427	99.53	3,632	15.79	138.7-	2.177-	2.43+
Maine	153,209	99.88	2,484	15.86	139.4-	2.189-	2.35
Metropolitan	82,345	99.89	1,174	14.04	147.8	2.060-	2.31
Rural	70,864	99.87	1,310	17.95+	131.8-	2.337	2.40
New Hampshire	114,752	98.98	1,638	14.26	152.1	2.153-	2.08
Metropolitan	74,135	98.55	887	11.96-	163.1	1.940-	2.06
Rural	40,617	99.77	751	18.46+	139.0	2.545	2.12
Vermont	62,781	99.82	1,067	16.67	136.8	2.234	2.91+
Metropolitan	10,422	99.91	147	13.96	219.0	2.942	3.19
Rural	52,359	99.80	920	17.20	124.0-	2.096	2.86+
Massachusetts	709,478	93.75	11,549	15.90	158.9	2.601	2.76+
Metropolitan	659,025	93.40	11,070	16.38+	158.1	2.664	2.79+
Rural	50,453	98.58	479	9.47-	178.4	1.750-	2.27
Rhode Island	132,332	97.59	1,780	13.44-	195.6+	2.656	1.72-
Metropolitan	132,332	97.59	1,780	13.44-	195.6+	2.656	1.72-
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Connecticut	396,761	97.56	4,400	11.13-	181.2+	2.051-	2.16
Metropolitan	384,627	97.50	4,228	11.04-	182.2+	2.050-	2.15
Rural	12,134	99.66	172	14.03	154.2	2.104	2.39
Middle Atlantic	4,707,584	98.68	60,016	12.78-	171.7+	2.234-	2.11
Metropolitan	4,221,762	98.55	51,634	12.26-	176.7+	2.214-	2.12
Rural	485,822	99.76	8,382	17.28+	139.5-	2.403	2.04
New York	2,143,249	98.98	28,503	13.04-	177.5+	2.380-	2.28+
Metropolitan	1,922,371	98.89	24,571	12.53-	182.8+	2.369-	2.29+
Rural	220,878	99.75	3,932	17.48+	142.7-	2.481	2.19

See notes at end of table.

Table 2. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
New Jersey	916,155	97.84	10,066	11.22-	189.3+	2.176-	1.97-
Metropolitan	916,155	97.84	10,066	11.22-	189.3+	2.176-	1.97-
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Pennsylvania	1,648,180	98.75	21,447	13.30-	155.1-	2.061-	1.95-
Metropolitan	1,383,236	98.56	16,997	12.57-	159.8	2.009-	1.96-
Rural	264,944	99.78	4,450	17.11+	136.9-	2.335	1.90
North Central	6,901,975	96.39	112,902	16.11+	160.9	2.591+	2.13
Metropolitan	4,398,761	95.22	64,082	14.59-	172.2+	2.526	2.13
Rural	2,503,214	98.51	48,820	18.67+	146.2-	2.699+	2.15
East North Central	4,745,430	97.76	72,603	15.35	168.5+	2.587	2.11
Metropolitan	3,453,558	97.13	49,458	14.48-	176.2+	2.567	2.12
Rural	1,291,872	99.47	23,145	17.61+	151.7-	2.639	2.08
Ohio	1,263,869	99.46	19,844	15.92	170.0	2.695+	2.01
Metropolitan	987,528	99.60	14,643	15.13	172.9+	2.627	2.01
Rural	276,341	98.95	5,201	18.66+	161.6	2.925+	2.00
Indiana	623,062	97.86	10,035	16.18+	165.9	2.654	1.96
Metropolitan	399,457	97.01	5,985	15.16	171.3	2.562	1.89-
Rural	223,605	99.41	4,050	17.97+	158.1	2.815	2.07
Illinois	1,265,011	95.90	20,520	16.15+	172.5+	2.829+	2.26+
Metropolitan	952,934	94.73	14,339	15.14	180.0+	2.787+	2.32+
Rural	312,077	99.58	6,181	19.09+	154.9	2.949+	2.09
Michigan	982,444	96.86	14,320	14.82-	167.8	2.479	2.11
Metropolitan	744,347	96.06	10,140	13.87-	179.7+	2.500	2.05
Rural	238,097	99.44	4,180	17.80+	138.1-	2.413	2.32
Wisconsin	611,044	99.60	7,884	12.56-	158.4	1.993-	2.15
Metropolitan	369,292	99.43	4,351	11.57-	173.0	2.007-	2.27
Rural	241,752	99.86	3,533	14.05-	140.5-	1.972-	1.98
West North Central	2,156,545	93.50	40,299	17.70+	147.7-	2.599	2.18+
Metropolitan	945,203	88.82	14,624	14.98-	158.9	2.382-	2.14
Rural	1,211,342	97.51	25,675	19.74+	141.3-	2.760+	2.21+
Minnesota	397,258	77.30	6,672	15.55	150.8-	2.358	2.33+
Metropolitan	187,915	67.07	2,683	13.32-	162.1	2.189-	2.26
Rural	209,343	89.55	3,989	17.54+	143.1-	2.508	2.42+

See notes at end of table.

Table 2. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Iowa	404,057	99.37	6,373	14.91	151.0-	2,223-	2.13
	136,818	98.24	2,039	14.50	153.0	2,198-	2.00
Metropolitan Rural	267,239	99.96	4,334	15.10	150.1	2,235-	2.19
Missouri	655,875	98.17	12,403	18.37+	154.3-	2,811+	2.13
	383,255	96.99	6,254	16.01	161.9	2,598	2.09
Metropolitan Rural	272,620	99.88	6,149	21.60+	146.4-	3,102+	2.18
North Dakota	85,433	98.28	1,976	21.76+	113.8-	2,477	2.13
	22,964	98.14	344	14.26	133.9	1,894	2.44
Metropolitan Rural	62,469	98.34	1,632	24.48+	109.6-	2,687	2.02
South Dakota	96,216	99.59	2,558	24.74+	122.4-	3,004+	2.16
	20,427	99.92	344	16.38	141.2	2,290	1.77
Metropolitan Rural	75,789	99.51	2,214	26.87+	119.6-	3,180+	2.26
Nebraska	209,910	98.52	4,063	18.02+	143.9-	2,612	2.11
	70,076	95.86	1,094	15.15	178.5-	2,721	2.41
Metropolitan Rural	139,834	99.91	2,969	19.37+	131.5-	2,561	1.96
Kansas	307,796	95.82	6,254	19.20+	151.6-	2,880+	2.15
	123,748	93.24	1,866	14.77	146.6	2,156-	2.05
Metropolitan Rural	184,048	97.63	4,388	22.01+	153.7	3,325+	2.22
South	8,980,101	97.94	155,555	17.51+	159.9-	2,767+	1.91-
	5,757,016	96.87	80,526	14.23-	169.6+	2,400-	1.79-
Metropolitan Rural	3,223,085	99.91	75,029	23.27+	149.4-	3,405+	2.14
South Atlantic	4,668,855	96.31	65,750	14.41-	165.6	2,361-	1.84-
	3,313,125	94.94	39,973	12.30-	169.9+	2,079-	1.71-
Metropolitan Rural	1,355,730	99.84	25,777	19.63+	158.9	3,070+	2.18
Delaware	70,251	99.94	725	10.70-	157.9	1,687-	1.82
	44,355	99.95	441	10.32-	134.1	1,357-	1.61
Metropolitan Rural	25,896	99.94	284	11.36-	193.5	2,255	2.16
Maryland	436,606	99.49	5,344	12.60-	176.1	2,225-	2.03
	395,091	99.44	4,773	12.47-	176.6	2,214-	2.03
Metropolitan Rural	41,515	99.95	571	13.82	172.1	2,336	2.05
District of Col.	66,196	99.75	569	8.22-	149.5	1,184-	2.30
	66,196	99.75	569	8.22-	149.5	1,184-	2.30
Metropolitan Rural	0	0.00	0	0.00	0.0	0.000	0.00

See notes at end of table.

Table 2. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Virginia	566,135	99.91	9,230	16.80+	153.0-	2,542	2.43+
Metropolitan	355,193	99.87	4,651	13.60-	164.7	2,232-	2.30+
Rural	210,942	99.97	4,579	22.06+	140.9-	3,050+	2.65+
West Virginia	244,259	98.98	5,219	21.50+	174.5	3,693+	2.30
Metropolitan	90,704	97.39	1,715	19.26+	167.4	3,161+	2.10
Rural	153,555	99.95	3,504	22.80+	177.9	3,997+	2.42+
North Carolina	689,138	99.93	9,609	14.59-	184.1+	2,669	2.28+
Metropolitan	346,905	99.89	4,206	12.69-	187.7+	2,385	2.20
Rural	342,233	99.96	5,403	16.53+	181.2+	2,958+	2.37+
South Carolina	329,020	99.44	4,655	15.09	158.4	2,342	2.20
Metropolitan	186,873	99.05	2,350	13.49-	165.5	2,204-	2.58+
Rural	142,147	99.95	2,305	17.17+	151.1	2,519	1.71-
Georgia	561,716	99.71	11,733	21.72+	153.6-	3,283+	2.23
Metropolitan	313,319	99.54	5,347	17.88+	162.1	2,875+	2.12
Rural	248,397	99.93	6,386	26.49+	146.4-	3,786+	2.36+
Florida	1,705,534	90.97	18,666	10.96-	166.9	1,823-	1.23-
Metropolitan	1,514,489	90.04	15,921	10.47-	169.8	1,778-	1.22-
Rural	191,045	99.17	2,745	14.98	148.9	2,214-	1.26-
East South Central	1,726,272	99.80	39,620	22.99+	149.7-	3,360+	2.09
Metropolitan	873,594	99.64	15,855	18.46+	159.9	2,903+	2.00
Rural	852,678	99.97	23,765	27.49+	142.9-	3,808+	2.18
Kentucky	422,657	99.70	10,874	25.67+	150.9-	3,796+	2.41+
Metropolitan	183,264	99.37	3,573	19.70+	163.9	3,175+	2.25
Rural	239,393	99.96	7,301	30.14+	144.5-	4,257+	2.53+
Tennessee	550,327	99.65	12,394	22.77+	155.9	3,505+	2.25
Metropolitan	342,007	99.46	6,078	18.02+	161.6	2,884+	2.13
Rural	208,320	99.96	6,316	30.49+	150.3-	4,516+	2.45+
Alabama	463,131	99.97	9,431	20.62+	153.6-	3,063+	1.75-
Metropolitan	281,960	99.97	5,106	18.56+	159.6	2,889+	1.71-
Rural	181,171	99.97	4,325	23.74+	146.5-	3,319+	1.81-
Mississippi	290,157	99.98	6,921	23.22+	131.6-	2,938+	1.86-
Metropolitan	66,363	99.96	1,098	16.81	139.0	2,299	1.80
Rural	223,794	99.98	5,823	25.01+	130.2-	3,112+	1.88

See notes at end of table.

Table 2. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
West South Central							
Metropolitan	2,584,974	99.74	50,185	19.33+	160.4	3.074+	1.94-
Rural	1,570,297	99.59	24,698	15.93+	175.2+	2.794+	1.85-
	1,014,677	99.97	25,487	24.36+	146.1-	3.480+	2.06
Arkansas							
Metropolitan	321,739	99.96	6,776	20.82+	154.9	3.195+	2.03
Rural	100,966	99.98	1,567	15.48	169.6	2.660	1.85
	220,773	99.95	5,209	23.23+	150.4-	3.437+	2.11
Louisiana							
Metropolitan	415,968	99.98	8,843	21.01+	135.6-	2.739	1.75-
Rural	268,137	99.98	4,406	16.58+	154.1	2.497	1.64-
	147,831	99.99	4,437	28.57+	117.2-	3.139+	1.93
Oklahoma							
Metropolitan	378,716	99.02	8,779	22.63+	158.8	3.578+	2.24
Rural	180,038	98.00	3,434	18.94+	169.1	3.221+	2.19
	198,678	99.96	5,345	25.87+	152.1	3.887+	2.28
Texas							
Metropolitan	1,468,551	99.81	25,787	17.63+	170.8+	3.009+	1.89-
Rural	1,021,156	99.73	15,291	15.26	183.1+	2.808+	1.85-
	447,395	99.97	10,496	22.81+	152.9-	3.436+	1.98
West							
Metropolitan	4,539,951	93.08	62,449	13.81-	169.3+	2.351-	2.22+
Rural	3,642,859	91.56	47,818	13.15-	178.4+	2.371-	2.24+
	897,092	97.88	14,631	16.49+	138.4-	2.268-	2.12
Mountain							
Metropolitan	1,200,638	94.36	18,307	15.55	150.7-	2.332-	2.16
Rural	720,893	92.10	9,425	13.43-	170.5	2.286-	2.14
	479,745	97.98	8,882	18.68+	129.6-	2.398	2.19
Montana							
Metropolitan	97,248	99.90	1,910	19.54+	114.4-	2.175	2.12
Rural	21,173	99.90	352	16.87	128.7	2.090	1.48
	76,075	99.91	1,558	20.27+	111.2-	2.198	2.29
Idaho							
Metropolitan	109,822	99.77	1,583	14.49	129.1-	1.843-	1.70-
Rural	18,471	99.90	156	8.59-	111.4	1.002-	2.35
	91,351	99.74	1,427	15.66	131.2-	2.011-	1.57-
Wyoming							
Metropolitan	42,408	99.91	903	21.23+	119.2-	2.466	2.46
Rural	12,265	99.93	188	15.63	145.5	2.183	2.05
	30,143	99.89	715	23.44+	112.5-	2.577	2.63
Colorado							
Metropolitan	266,663	94.73	3,917	14.59-	154.4	2.246-	2.49+
Rural	201,737	95.23	2,853	14.15-	157.0	2.217-	2.50+
	64,926	93.22	1,064	15.91	147.7	2.332	2.43

See notes at end of table.

Table 2. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Mexico Metropolitan Rural	125,371	92.49	2,652	21.28+	144.6-	3.111+	2.12
	51,612	85.86	797	15.85	179.2	2.964	1.79
	73,759	97.76	1,855	24.96+	129.1-	3.210+	2.37
Arizona Metropolitan Rural	348,748	91.33	4,552	13.64-	167.1	2.281-	1.97
	257,931	89.11	3,077	12.35-	183.0+	2.253-	1.98
	90,817	98.31	1,475	17.43+	133.3-	2.366	1.93
Utah Metropolitan Rural	128,579	99.92	1,532	12.09-	166.7	1.970-	2.45+
	93,319	99.94	1,004	10.98-	185.7	1.999-	2.33
	35,260	99.88	528	14.98	130.4	1.893-	2.79
Nevada Metropolitan Rural	81,799	86.15	1,258	17.00	179.9	3.059+	1.92
	64,385	84.73	998	17.21	178.8	3.069	1.74
	17,414	91.83	260	16.27	184.2	3.024	2.62
Pacific Metropolitan Rural	3,339,313	92.62	44,142	13.19-	176.7+	2.357-	2.24+
	2,921,966	91.93	38,393	13.08-	180.3+	2.389-	2.27+
	417,347	97.77	5,749	13.97-	152.0	2.118-	2.03
Washington Metropolitan Rural	461,706	92.41	5,676	12.26-	160.0	1.938-	1.95
	346,977	90.66	4,062	11.66-	163.5	1.885-	1.98
	114,729	97.42	1,614	14.07-	151.1	2.102-	1.86
Oregon Metropolitan Rural	303,778	86.84	3,261	10.63-	142.1-	1.491-	1.89-
	181,677	80.38	1,721	9.21-	140.8-	1.282-	1.90
	122,101	98.65	1,540	12.85-	143.8	1.833-	1.87
California Metropolitan Rural	2,477,248	93.71	34,047	13.72-	182.7+	2.549	2.35+
	2,330,007	93.36	31,908	13.64-	184.1+	2.557	2.36+
	147,241	99.57	2,139	14.90	160.5	2.410	2.21
Alaska Metropolitan Rural	16,348	99.78	295	19.73	103.4-	1.993	1.99
	5,625	99.75	100	21.02	154.9	3.309	1.91
	10,723	99.80	195	19.13	77.6-	1.426-	2.03
Hawaii Metropolitan Rural	80,233	83.64	863	10.89-	199.1+	2.207	2.04
	57,680	83.31	602	10.77-	204.9	2.228	1.84
	22,553	84.47	261	11.19-	186.2	2.159	2.56

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	413,840	15.50	163.5	2.533	2.09
Northeast	6,276,897	98.04	82,934	13.20-	169.1+	2.272-	2.20+
New England	1,569,313	96.20	22,918	14.42-	162.4	2.383-	2.45+
Maine	153,209	99.88	2,484	15.86	139.4-	2.189-	2.35
Bangor, ME	16,035	99.87	286	17.53	152.1	2.666	3.40+
Lewiston-Auburn, ME	13,464	99.93	165	12.02	122.5	1.510-	2.29
Portland, ME	52,846	99.89	723	13.49-	152.2	2.015-	2.00
New Hampshire	114,752	98.98	1,638	14.26	152.1	2.153-	2.08
Manchester, NH	44,397	97.91	503	11.23-	154.2	1.728-	1.95
Portsmouth, NH	29,738	99.52	384	13.07	175.0	2.267	2.23
Vermont	62,781	99.82	1,067	16.67	136.8	2.234	2.91+
Burlington, VT	10,422	99.91	147	13.98	219.0	2.942	3.19
Massachusetts	709,478	93.75	11,549	15.90	158.9	2.601	2.76+
Boston, MA	429,794	95.67	7,358	16.58+	156.8	2.674	2.90+
New Bedford, MA	65,540	98.67	913	14.07	140.5	1.996-	2.23
Pittsfield, MA	20,281	91.00	397	19.22+	160.3	3.235	2.77
Springfield, MA	72,225	92.57	1,092	14.98	181.2	2.779	2.56+
Worcester, MA	71,185	79.42	1,310	17.75+	157.9	2.893	2.79+
Rhode Island	132,332	97.59	1,780	13.44-	195.6+	2.656	1.72-
Providence, RI	132,332	97.59	1,780	13.44-	195.6+	2.656	1.72-
Connecticut	396,761	97.56	4,400	11.13-	181.2+	2.051-	2.16
Bridgeport, CT	96,911	96.63	1,055	10.92-	167.3	1.856-	2.05
Hartford, CT	157,139	99.16	1,789	11.44-	182.2	2.127-	2.37
New Haven, CT	102,964	95.31	997	9.69-	201.8+	1.996-	1.92
New London, CT	27,613	99.70	387	14.28	172.1	2.495	2.08

See notes at end of table.

Table 3. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As Percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 non-HMD enrollees	Per 1,000 non-HMD enrollees	
Middle Atlantic	4,707,584	98.68	60,016	12.78-	2.234-	2.234-	2.11
New York	2,143,249	98.98	28,503	13.04-	2.380-	2.380-	2.28+
Albany, NY	115,122	98.78	1,807	15.60	162.6	2.583	2.41
Binghamton, NY	35,576	99.96	513	14.39	194.3	2.818	2.45
Buffalo, NY	134,451	98.66	1,408	10.78-	186.9	2.055-	2.11
Elmira, NY	13,699	99.94	168	12.21	158.6	1.950	1.74
Glens Falls, NY	15,222	99.63	248	16.09	138.9	2.131	2.95
Nassau-Suffolk, NY	297,143	99.88	3,467	11.90-	195.1+	2.514	1.98
New York, NY	997,473	99.58	12,889	12.35-	186.3+	2.378-	2.43+
Niagara Falls, NY	30,841	99.69	324	10.97-	170.6	1.940	1.75
Orange County, NY	30,488	99.89	614	20.12+	143.9	2.948	1.86
Poughkeepsie, NY	27,864	98.47	462	16.21	151.6	2.489	2.16
Rochester, NY	102,542	88.80	1,262	12.01-	178.0	2.172	2.39
Syracuse, NY	75,217	99.92	777	10.42-	193.0	2.020-	2.00
Utica-Rome, NY	46,733	99.90	632	13.60	162.2	2.254	1.72
New Jersey	916,155	97.84	10,066	11.22-	189.3+	2.176-	1.97-
Atlantic City, NJ	46,406	97.93	439	9.34-	193.6	1.871-	1.66
Bergen-Passaic, NJ	171,246	99.45	1,832	10.88-	196.7+	2.227-	1.89
Jersey City, NJ	64,069	99.25	733	11.72-	145.7	1.693-	1.93
Middlesex, NJ	91,009	94.70	1,031	12.09-	168.9	2.073-	2.03
Monmouth-Ocean, NJ	154,643	99.57	1,559	10.28-	197.2+	2.097-	1.60-
Newark, NJ	211,511	99.40	2,433	11.56-	189.9+	2.265-	2.12
Trenton, NJ	38,499	97.14	456	12.17-	167.3	2.049	2.20
Vineland, NJ	16,382	96.17	172	10.85-	203.9	2.193	1.89
Pennsylvania	1,648,180	98.75	21,447	13.30-	155.1-	2.061-	1.95-
Allentown, PA-NJ	94,668	99.09	1,032	11.29-	141.6	1.632-	1.86
Altoona, PA	20,692	99.99	270	13.04	124.2	1.585-	1.70
Beaver County, PA	27,562	99.95	464	18.00	168.0	3.073	3.31+
Erie, PA	35,244	99.92	476	14.08	127.5	1.723-	2.35
Harrisburg, PA	72,929	99.95	685	9.58-	173.0	1.625-	1.70-
Johnstown, PA	40,260	99.97	603	15.70	144.9	2.355	1.72
Lancaster, PA	48,045	99.93	412	8.35-	171.1	1.356-	1.54-
Philadelphia, PA-NJ	569,054	95.81	6,901	12.28-	176.4+	2.181-	2.11
Pittsburgh, PA	323,494	99.06	4,572	14.71	160.3	2.382	1.90
Reading, PA	48,476	99.88	354	7.33-	193.7	1.375-	2.06
Scranton, PA	122,888	99.95	1,422	12.15-	166.5	2.026-	1.72-
Sharon, PA	19,009	99.97	361	19.43	117.4-	2.191	2.50
State College, PA	10,032	99.97	151	15.29	142.0	2.051	3.12
Williamsport, PA	16,877	99.98	216	12.72	83.5-	1.055-	1.30-
York, PA	48,541	99.96	386	8.01-	175.2	1.338-	1.91

See notes at end of table.

Table 3. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
North Central	6,901,975	96.39	112,902	16.11+	160.9	2.591+	2.13
East North Central	4,745,430	97.76	72,603	15.35	168.5+	2.587	2.11
Ohio	1,263,869	99.46	19,844	15.92	170.0	2.695+	2.01
Akron, OH	75,615	99.90	1,245	16.78		2.864	2.02
Canton, OH	51,895	99.97	711	14.02	159.8	2.229	1.93
Cincinnati, OH-KY-IN	159,407	99.96	2,733	17.13+	173.1	2.956+	2.37
Cleveland, OH	242,585	99.71	3,230	13.73-	182.3+	2.524	1.96
Columbus, OH	121,377	99.73	1,776	14.82	172.8	2.537	1.82
Dayton, OH	103,547	99.95	1,474	14.56	176.4	2.609	2.20
Hamilton, OH	26,009	99.95	467	18.18	176.4	3.916+	2.27
Lima, OH	19,579	99.97	304	15.49	143.2	2.127	1.53
Lorain-Elyria, OH	27,340	99.85	440	16.96	156.8	2.711	1.84
Mansfield, OH	15,230	99.96	163	11.05-	206.7	2.291	1.61
Steubenville, OH-WV	21,934	98.57	476	22.91+	143.7	3.230	2.12
Toledo, OH	70,660	99.95	1,064	15.17	144.3	2.176	1.95
Youngstown, OH	69,319	99.95	947	14.37	172.8	2.508	1.74
Indiana	623,062	97.86	10,035	16.18+	165.9	2.654	1.96
Anderson, IN	17,198	99.83	228	13.65	247.2+	3.300	1.71
Bloomington, IN	7,913	99.67	97	12.25	133.0	1.644	1.78
Elkhart-Goshen, IN	15,647	99.92	153	9.68-	142.8	1.314-	0.84-
Evansville, IN-KY	34,434	95.72	597	17.20	153.5	2.546	1.70
Fort Wayne, IN	37,565	97.77	445	11.75-	144.1	1.650-	1.53-
Gary-Hammond, IN	61,160	97.01	773	13.48-	169.6	2.291	1.45-
Indianapolis, IN	118,407	93.81	1,929	16.35	172.5	2.810	2.40
Kokomo, IN	10,842	99.94	167	15.71	166.8	2.656	1.88
Lafayette, IN	11,228	99.92	160	13.96	172.5	2.315	1.12-
Muncie, IN	13,759	99.91	201	14.97	161.1	2.263	2.11
South Bend, IN	33,170	99.93	442	13.38	169.6	2.187	1.66
Terre Haute, IN	19,585	99.89	318	16.20	164.8	2.584	1.85
Illinois	1,265,011	95.90	20,520	16.15+	172.5+	2.829+	2.26+
Aurora-Elgin, IL	30,946	98.68	369	11.79-	190.4	2.278	2.89+
Bloomington, IL	12,672	99.94	163	12.39	164.0	2.006	1.28
Champaign, IL	13,391	99.91	153	11.36-	148.3	1.769	1.22-
Chicago, IL	608,135	92.94	8,930	14.84-	189.2+	2.885+	2.44+
Decatur, IL	15,992	99.97	222	13.65	120.4	1.698-	1.19-
Joliet, IL	28,047	97.18	468	17.08	161.8	2.777	1.79
Kankakee, IL	12,020	99.94	231	19.29	186.2	3.528	3.24
Lake County, IL	36,099	96.52	585	16.69	185.7	3.189	2.89+
Peoria, IL	43,549	99.93	579	13.20-	149.5	2.025	2.03
Rockford, IL	28,351	88.93	365	12.78-	159.9	2.018	1.70
Springfield, IL	24,799	99.96	398	15.93	141.8	2.268	2.11

See notes at end of table.

Table 3. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Michigan	982,444	96.86	14,320	14.82-	167.8	2,479	2.11
Ann Arbor, MI	17,760	95.12	202	11.24-	155.0	1,757	2.74
Battle Creek, MI	16,831	99.89	323	19.18	99.0-	1,898	2.42
Benton Harbor, MI	21,618	99.88	364	17.04	171.0	2,886	1.65
Detroit, MI	448,826	96.43	6,150	14.07-	194.4+	2,770+	1.94
Flint, MI	43,084	91.01	658	15.57	169.9	2,579	1.72
Grand Rapids, MI	64,091	95.42	704	10.78-	173.9	1,872-	2.58
Jackson, MI	17,046	99.82	219	13.02	108.2-	1,380-	2.30
Kalamazoo, MI	21,512	99.85	283	13.21	186.5	2,479	3.56+
Lansing, MI	32,460	90.23	476	14.53	121.8-	1,752-	1.78
Muskegon, MI	18,957	98.06	230	12.52	231.7	2,832	2.00
Saginaw, MI	42,162	96.18	531	12.98-	147.2	1,872-	1.74
Wisconsin	611,044	99.60	7,884	12.56-	158.4	1,993-	2.15
Appleton, WI	34,483	99.96	402	11.43-	163.7	1,860-	2.02
Eau Claire, WI	16,955	99.94	265	15.06	154.1	2,342	2.85
Green Bay, WI	19,185	99.97	176	9.15-	164.4	1,508-	2.07
Janesville, WI	16,529	99.85	241	14.18	185.6	2,502	2.06
Kenosha, WI	14,291	99.91	147	10.28-	193.3	1,889	2.38
LaCrosse, WI	11,858	99.91	135	10.94-	172.8	1,898	3.74+
Madison, WI	30,776	99.74	288	9.08-	167.9	1,517-	1.74
Milwaukee, WI	166,813	99.21	2,030	12.00-	185.9+	2,274	2.35
Racine, WI	20,503	99.90	193	9.33-	150.3	1,392-	1.97
Sheboygan, WI	14,461	99.98	199	13.47	167.8	2,273	2.41
Wausau, WI	12,945	99.95	109	8.30-	107.7	0.833-	1.97
West North Central	2,156,545	93.50	40,299	17.70+	147.7-	2,599	2.18+
Minnesota	397,258	77.30	6,672	15.55	150.8-	2,358	2.33+
Duluth, MN-WI	29,977	76.74	355	11.63-	156.8	1,831-	2.45
Minneapolis, MN-WI	141,769	64.45	2,076	13.56-	164.2	2,263	2.30
Rochester, MN	9,393	99.67	125	12.53	105.8	1,259-	1.38
St. Cloud, MN	12,248	70.92	206	15.28	161.6	2,422	1.87
Iowa	404,057	99.37	6,373	14.91	151.0-	2,223-	2.13
Cedar Rapids, IA	19,323	99.94	307	15.48	165.7	2,524	2.19
Davenport, IA-IL	44,646	99.94	800	17.83	191.6	3,396+	2.18
Des Moines, IA	40,067	94.50	619	15.07	138.4	2,075	2.28
Dubuque, IA	11,460	99.95	128	10.91-	148.2	1,681	1.58
Iowa City, IA	6,240	99.90	58	8.95-	83.7	0,757-	1.78
Sioux City, IA-NE	15,951	99.96	276	16.33	177.4	2,854	1.58
Waterloo, IA	19,521	99.96	254	12.72	171.2	2,122	1.43

See notes at end of table.

Table 3. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As Percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Missouri	655,875	98.17	12,403	18.37+	154.3-	2.811+	2.13
Columbia, MO	8,560	99.98	130	14.79	197.5	2.907	2.11
Joplin, MO	19,275	99.95	370	19.24	136.8	2.614	1.51
Kansas City, MO-KS	154,919	95.72	2,744	17.34+	141.5-	2.437	2.15
St. Joseph, MO	13,630	99.97	243	17.22	176.4	3.048	2.27
St. Louis, MO-IL	283,167	97.43	4,514	15.79	165.9	2.657	2.09
Springfield, MO	27,676	99.94	393	13.97	171.1	2.398	2.11
North Dakota	85,433	98.28	1,976	21.76+	113.8-	2.477	2.13
Bismarck, ND	8,160	95.13	132	15.81	91.9-	1.425-	1.39
Fargo, ND-MN	14,138	96.57	214	14.03	148.7	2.124	2.37
Grand Forks, ND	5,687	99.95	85	14.04	161.8	2.387	3.79
South Dakota	96,216	99.59	2,558	24.74+	122.4-	3.004+	2.16
Rapid City, SD	7,152	99.89	108	15.13	101.8	1.552	1.84
Sioux Falls, SD	13,275	99.93	236	17.02	159.0	2.656	1.73
Nebraska	209,910	98.52	4,063	18.02+	143.9-	2.612	2.11
Lincoln, NE	20,994	98.50	227	10.30-	182.5	1.843	2.22
Omaha, NE-IA	57,609	95.39	1,065	18.08+	164.8	3.017	2.59
Kansas	307,796	95.82	6,254	19.20+	151.6-	2.880+	2.15
Lawrence, KS	4,965	87.78	96	18.23	198.9	3.299	3.67
Topeka, KS	18,983	97.26	248	12.32-	137.2	1.671-	2.07
Wichita, KS	45,844	88.57	657	14.03	168.1	2.329	1.51-
South	8,980,101	97.94	155,555	17.51+	159.9-	2.767+	1.91-
South Atlantic	4,668,855	96.31	65,750	14.41-	165.6	2.361-	1.84-
Delaware	70,251	99.94	725	10.70-	157.9	1.687-	1.82
Wilmington, DE-NJ-MD	58,114	99.65	672	12.00-	130.9	1.529-	1.75
Maryland	436,606	99.49	5,344	12.60-	176.1	2.225-	2.03
Baltimore, MD	244,878	99.90	2,983	12.58-	179.2	2.277-	2.12
Cumberland, MD-WV	17,051	99.95	357	21.49+	154.6	3.303	2.11
Hagerstown, MD	14,522	99.95	141	9.84-	193.1	1.753	2.02
District of Col.	66,196	99.75	569	8.22-	149.5	1.184-	2.30
Washington, DC-MD-VA	261,121	99.05	2,598	10.15-	168.5	1.710-	2.04

See notes at end of table.

Table 3. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Virginia	566,135	99.91	9,230	16.80+	153.0-	2,542	2.43+
Charlottesville, VA	12,020	99.92	232	19.27	146.6	2,742	2.80
Danville, VA	15,532	99.99	182	12.12	166.8	1,964	2.54
Lynchburg, VA	18,110	99.99	218	12.12-	151.1	1,726-	1.83
Norfolk, VA	102,601	99.96	1,255	12.97-	193.9+	2,558	2.34
Richmond, VA	85,698	99.98	1,182	14.23	147.6	2,065-	2.21
Roanoke, VA	30,622	99.98	443	14.21	134.0	1,859-	1.93
West Virginia	244,259	98.98	5,219	21.50+	174.5	3,693+	2.30
Charleston, WV	34,215	99.96	633	19.13+	164.7	3,144	1.92
Huntington, WV-KY-OH	40,891	99.95	785	19.22+	154.7	2,878	2.37
Parkersburg, WV-OH	19,888	99.94	410	20.32+	193.5	3,916+	2.94
Wheeling, WV-OH	22,016	82.51	446	20.42+	168.6	3,424	1.84
North Carolina	689,138	99.93	9,609	14.59-	184.1+	2,669	2.28+
Asheville, NC	24,469	99.92	319	12.88	146.0	1,836	2.34
Burlington, NC	14,505	99.99	117	8.59-	188.1	1,674	1.51
Charlotte, NC	109,337	99.79	1,327	12.83-	182.4	2,334	2.07
Fayetteville, NC	13,388	99.98	132	10.87-	232.0	2,533	1.65
Greensboro, NC	99,387	99.97	1,205	12.61-	194.9+	2,476	2.50+
Hickory, NC	23,392	99.97	367	16.81	176.1	2,968	2.37
Jacksonville, NC	5,134	99.86	59	12.91	125.7	1,647	1.92
Raleigh-Durham, NC	56,484	99.86	665	12.17-	206.0+	2,511	2.04
Wilmington, NC	12,634	99.97	156	13.29	189.8	2,482	1.54
South Carolina	329,020	99.44	4,655	15.09	158.4	2,342	2.20
Anderson, SC	16,583	99.70	294	18.91	147.0	2,817	3.13
Charleston, SC	34,246	98.90	317	9.96-	180.7	1,740-	2.48
Columbia, SC	35,361	99.98	383	11.57-	122.9	1,408-	3.66+
Florence, SC	11,195	99.96	221	21.42+	134.0	2,729	2.18
Greenville, SC	65,893	98.01	818	13.23-	195.9	2,594	2.30
Georgia	561,716	99.71	11,733	21.72+	153.6-	3,283+	2.23
Albany, GA	9,292	99.92	146	16.60	205.8	3,520	3.61
Athens, GA	13,510	99.96	277	21.05+	156.1	3,167	1.79
Atlanta, GA	189,539	99.27	3,253	17.90+	152.7	2,705	2.03
Augusta, GA-SC	32,938	99.93	560	18.07	154.4	2,739	2.33
Columbus, GA-AL	22,847	99.96	310	14.53	246.4+	3,609+	2.35
Macon, GA	25,929	99.97	432	17.71	200.3	3,522+	2.03
Savannah, GA	25,338	99.94	402	16.68	147.1	2,397	1.67

See notes at end of table.

Table 3. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Florida	1,705,534	90.97	18,666	10.96-	166.9	1.823-	1.23-
Bradenton, FL	42,906	99.68	436	9.86-	171.3	1.699-	1.06-
Daytona Beach, FL	62,616	92.90	672	10.68-	140.2	1.466-	1.35-
Fort Lauderdale, FL	181,839	81.09	1,614	8.61-	181.3	1.564-	0.97-
Fort Myers, FL	61,428	99.65	458	7.88-	199.0	1.540-	1.22-
Fort Pierce, FL	41,198	99.28	305	7.88-	183.3	1.423-	0.94-
FT. Walton Beach, FL	10,169	99.88	206	22.46+	160.6	3.741	2.35
Gainesville, FL	16,758	99.58	249	15.15	126.0	1.977	1.69
Jacksonville, FL	80,895	98.22	1,113	14.24	169.1	2.374	1.80
Lakeland, FL	55,495	99.56	645	11.95-	172.0	2.037-	1.41-
Melbourne, FL	46,501	99.72	463	10.77-	178.5	1.932-	1.42-
Miami-Hialeah, FL	168,502	79.57	2,244	12.19-	160.0	1.951-	1.21-
Naples, FL	23,433	99.75	167	7.61-	161.5	1.218-	1.24-
Ocala, FL	31,367	99.50	272	9.45-	189.5	1.786-	0.97-
Orlando, FL	90,604	98.55	1,091	12.39-	176.5	2.160	1.43-
Panama City, FL	11,817	99.70	139	12.68	133.7	1.735	1.36
Pensacola, FL	29,972	99.89	390	13.81	143.2	1.983	1.17-
Sarasota, FL	77,895	99.81	599	7.62-	148.2	1.129-	0.94-
Tallahassee, FL	17,414	97.85	236	13.80	168.0	2.304	1.58
Tampa, FL	323,951	87.05	3,479	10.52-	179.3	1.895-	1.32-
West Palm Beach, FL	139,729	85.22	1,143	8.16-	169.4	1.391-	0.96-
East South Central	1,726,272	99.80	39,620	22.99+	149.7-	3.360+	2.09
Kentucky	422,657	99.70	10,874	25.67+	150.9-	3.796+	2.41+
Lexington, KY	31,008	98.87	503	16.17	194.6	3.059	1.85
Louisville, KY-IN	107,485	99.20	2,137	20.20+	171.0	3.462+	2.37
Owensboro, KY	10,319	99.96	226	22.49+	153.2	3.329	2.13
Tennessee	550,327	99.65	12,394	22.77+	155.9	3.505+	2.25
Chattanooga, TN-GA	50,061	99.97	1,043	21.32+	158.2	3.336+	2.45
Clarksville, TN-KY	12,541	99.91	271	21.42+	158.3	3.455	2.35
Jackson, TN	10,064	99.95	141	13.56	145.1	1.984	0.90-
Johnson City, TN-VA	55,068	99.97	1,268	23.77+	174.4	4.206+	3.37+
Knoxville, TN	70,970	99.96	1,232	17.91+	156.6	2.800	2.05
Memphis, TN-AR-MS	88,836	98.06	1,106	12.45-	201.9+	2.457	1.74-
Nashville, TN	92,994	99.96	1,907	20.67+	141.1-	2.857	2.15

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Table 3. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Alabama	463,131	99.97	9,431	20.62+	153.6-	3.063+	1.75-
Anniston, AL	13,124	99.97	302	24.40+	187.1	4.289+	2.24
Birmingham, AL	108,546	99.98	2,032	18.88+	157.8	2.928	2.02
Dothan, AL	12,690	99.94	253	20.50+	158.2	3.214	1.30
Florence, AL	16,687	99.97	318	19.67	131.0	2.463	1.01-
Gadsden, AL	14,295	99.97	371	27.73+	181.5	4.855+	2.92
Huntsville, AL	17,137	99.96	289	17.81	137.5	2.363	1.11-
Mobile, AL	50,513	99.96	713	14.66	154.8	2.222	0.91-
Montgomery, AL	29,832	99.97	455	15.42	179.9	2.758	1.95
Tuscaloosa, AL	13,604	99.99	281	20.58+	122.0	2.470	1.68
Mississippi	290,157	99.98	6,921	23.22+	131.6-	2.938+	1.86-
Biloxi-Gulfport, MS	18,079	99.97	360	20.92+	139.4	2.872	1.50
Jackson, MS	35,305	99.98	486	13.53	150.4	1.975	1.91
Pascagoula, MS	8,556	99.88	188	23.85+	96.0-	2.413	2.12
West South Central	2,584,974	99.74	50,185	19.33+	160.4	3.074+	1.94-
Arkansas	321,739	99.96	6,776	20.82+	154.9	3.195+	2.03
Fayetteville, AR	11,803	99.95	229	19.19	158.0	3.086	1.78
Fort Smith, AR-OK	21,413	99.98	432	20.33+	175.0	3.611+	2.10
Little Rock, AR	50,966	99.99	680	13.48-	165.8	2.265	2.09
Pine Bluff, AR	11,012	99.98	133	11.53-	143.5	1.681	1.21-
Louisiana	415,968	99.98	8,843	21.01+	135.6-	2.739	1.75-
Alexandria, LA	13,819	99.96	305	21.52+	153.8	3.180	1.51
Baton Rouge, LA	39,583	99.97	582	15.11	184.4	2.686	1.40-
Houma-Thibodaux, LA	13,501	100.00	221	17.45	188.0	3.208	1.67
Lafayette, LA	14,620	99.99	256	17.83	193.0	3.307	2.66
Lake Charles, LA	16,436	99.98	373	23.79+	134.1	3.168	2.07
Monroe, LA	14,648	99.99	474	31.37+	121.7-	3.750	2.49
New Orleans, LA	118,708	99.98	1,562	13.34-	151.1	1.988-	1.32-
Shreveport, LA	36,822	99.98	633	16.60	144.5	2.297	2.01
Oklahoma	378,716	99.02	8,779	22.63+	158.8	3.578+	2.24
Enid, OK	8,215	99.94	137	15.96	133.5	2.042	1.67
Lawton, OK	8,221	99.99	147	18.60	173.7	3.369	2.59
Oklahoma City, OK	88,646	97.45	1,707	18.99+	157.5	2.993	2.11
Tulsa, OK	71,032	98.13	1,342	18.91+	186.5	3.573+	2.20

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Table 3. Pneumonia and influenza: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Texas	1,468,551	99.81	25,787	17.63+	170.8+	3.009+	1.89-
Abilene, TX	13,100	99.96	177	13.23	215.5	2.794	1.48
Amarillo, TX	19,063	99.97	280	15.12	151.3	2.262	1.96
Austin, TX	47,578	99.95	628	13.15-	173.2	2.282	2.03
Beaumont, TX	42,323	99.98	759	18.31+	175.2	3.149	1.47-
Brazoria, TX	12,486	99.78	240	20.61	265.6+	5.396+	2.24
Brownsville, TX	20,169	99.86	255	12.71	222.6	2.841	1.66
Bryan, TX	6,955	99.96	86	12.15	172.5	2.096	1.38
Corpus Christi, TX	28,417	95.56	481	17.44	169.6	3.084	1.46-
Dallas, TX	172,118	99.95	2,545	15.10	214.8+	3.289+	2.26
El Paso, TX	37,292	99.94	521	14.40	172.9	2.632	1.84
Fort Worth, TX	97,947	99.96	1,448	15.15	181.6	2.751	1.67-
Galveston, TX	19,376	99.94	243	13.11	217.4	2.951	2.07
Houston, TX	187,992	99.85	2,767	15.30	277.4	2.774	1.92
Killeen-Temple, TX	17,182	99.97	306	17.73	120.5	2.146	1.23-
Laredo, TX	8,421	99.99	132	15.03	188.6	2.780	1.21
Longview, TX	20,547	99.98	268	12.86	135.5	1.762-	0.75-
Lubbock, TX	18,957	99.97	374	20.15+	168.1	3.408	2.23
McAllen, TX	27,402	99.82	441	16.29	215.9+	3.527+	1.48-
Midland, TX	7,362	99.96	93	13.31	233.7	3.275	1.43
Odessa, TX	9,207	99.99	146	17.18	194.1	3.378	2.72
San Angelo, TX	11,213	99.99	219	19.44	149.0	2.759	1.00-
San Antonio, TX	107,989	99.28	1,461	13.64-	146.8	2.084-	1.96
Sherman-Denison, TX	14,532	99.99	249	16.91	160.3	2.567	1.40
Texas-Kan., TX-AR	15,315	99.99	328	20.98+	175.8	3.598	1.98
Tyler, TX	18,223	99.98	339	18.93	203.7	3.809+	1.78
Victoria, TX	6,871	99.97	129	19.26	175.3	3.344	2.35
Waco, TX	23,624	99.99	265	11.03-	202.6	2.186	1.68
Wichita Falls, TX	14,462	99.97	224	15.21	146.1	2.218	1.55
West	4,539,951	93.08	62,449	13.81-	169.3+	2.351-	2.22+
Mountain	1,200,638	94.36	18,307	15.55	150.7-	2.332-	2.16
Montana	97,248	99.90	1,910	19.54+	114.4-	2.175	2.12
Billings, MT	12,097	99.88	178	15.02	140.0	2.064	1.64
Great Falls, MT	9,076	99.91	174	19.31	116.8	2.124	1.27
Idaho	109,822	99.77	1,583	14.49	129.1-	1.843-	1.70-
Boise City, ID	18,471	99.90	156	8.59-	111.4	1.002-	2.35
Wyoming	42,408	99.91	903	21.23+	119.2-	2.466	2.46
Casper, WY	5,379	99.91	84	16.03	129.9	1.929	2.64
Cheyenne, WY	6,886	99.96	104	15.33	157.3	2.381	1.59

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Area of residence	Non-HMD enrollment		As percent of all enrollees	Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	Per 1,000 non-HMD enrollees		Number	Per 1,000 discharges	Per 1,000 non-HMD enrollees	Per 1,000 admission deaths	
Colorado	266,663	94.73	3,917	14.59-	154.4	2.246-	2.49+	
Boulder-Longmont, CO	15,143	97.96	188	12.06-	130.6	1.506-	1.63	
Colorado Springs, CO	24,899	95.03	301	12.53-	140.7	1.700-	2.57	
Denver, CO	119,624	94.10	1,834	15.35	156.4	2.427	2.59+	
Fort Collins, CO	15,089	99.71	185	12.08	166.2	2.015	2.75	
Greeley, CO	11,610	99.62	153	12.94	216.6	2.768	2.35	
Pueblo, CO	15,372	94.43	192	12.49	155.5	1.887	2.46	
New Mexico	125,371	92.49	2,652	21.28+	144.6-	3.111+	2.12	
Albuquerque, NM	33,783	81.01	472	14.40	178.8	2.657	1.98	
Las Cruces, NM	9,375	99.94	172	18.81	204.8	4.037	1.55	
Santa Fe, NM	8,454	93.66	153	18.28	152.7	3.003	1.19-	
Arizona	348,748	91.33	4,552	13.64-	167.1	2.281-	1.97	
Phoenix, AZ	187,381	86.74	2,166	12.01-	181.1	2.150-	1.93	
Tucson, AZ	70,550	96.06	911	13.23-	187.4	2.518	2.13	
Utah	128,579	99.92	1,532	12.09-	166.7	1.970-	2.45+	
Provo-Orem, UT	16,076	99.93	209	13.30	206.6	2.604	3.35+	
Salt Lake City, UT	77,243	99.94	795	10.49-	180.5	1.875-	2.12	
Nevada	61,799	86.15	1,258	17.00	179.9	3.059+	1.92	
Las Vegas, NV	45,252	82.98	752	18.70+	194.8	3.641+	1.64-	
Reno, NV	19,133	89.17	246	13.83	131.8	1.829	1.98	
Pacific	3,339,313	92.62	44,142	13.19-	176.7+	2.357-	2.24+	
Washington	461,706	92.41	5,676	12.26-	160.0	1.938-	1.95	
Bellingham, WA	13,629	99.51	166	11.84-	115.6	1.336-	1.78	
Bremerton, WA	15,439	96.59	174	11.36-	152.8	1.708	2.37	
Olympia, WA	14,254	90.98	214	14.94	205.3	2.925	2.08	
Richland, WA	12,559	99.85	156	13.26	164.5	2.150	2.60	
Seattle, WA	159,828	86.57	1,809	11.23-	163.4	1.822-	2.02	
Spokane, WA	41,237	94.51	528	12.50-	184.9	2.283	2.00	
Tacoma, WA	50,245	97.24	559	11.23-	163.4	1.823-	1.79	
Vancouver, WA	17,048	80.32	147	8.76-	177.5	1.497-	1.76	
Yakima, WA	22,738	99.74	309	13.38	124.3	1.685-	1.64	
Oregon	303,778	86.84	3,261	10.63-	142.1-	1.491-	1.89-	
Eugene, OR	28,947	88.67	233	8.08-	134.6	1.116-	2.33	
Medford, OR	20,326	99.78	200	9.94-	115.1	1.160-	1.68	
Portland, OR	99,155	72.79	1,000	9.68-	143.8	1.352-	1.87	
Salem, OR	33,249	90.39	288	8.31-	152.8	1.269-	1.76	

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
California	2,477,248	93.71	34,047	13.72-	182.7+	2,549	2.35+
Anaheim-Santa Ana, CA	167,171	89.39	2,478	14.70	202.3+	3,113+	2.31
Bakersfield, CA	44,969	99.76	932	21.50+	190.7	4,078+	2.66
Chico, CA	27,102	99.09	413	15.45	183.8	2,861	2.28
Fresno, CA	58,425	99.90	725	12.22-	197.6	2,443	2.06
Los Angeles, CA	677,939	91.40	10,303	15.00	184.8+	2,865+	2.37+
Merced, CA	13,462	99.86	235	17.98	122.1	2,197	2.51
Modesto, CA	33,619	98.80	608	18.32	183.8	3,328	3.29+
Oakland, CA	188,258	99.08	2,175	11.57-	189.8+	2,231-	2.22
Oxnard-Ventura, CA	49,488	93.74	667	13.67	159.1	2,197	2.21
Redding, CA	17,796	99.73	220	13.07	155.7	2,054	3.15
Riverside, CA	203,246	90.92	3,158	15.75	187.4+	2,936+	2.86+
Sacramento, CA	120,273	91.81	1,487	12.70-	190.1+	2,429	2.48+
Salinas, CA	29,131	99.86	279	9.56-	158.6	1,517-	2.53
San Diego, CA	205,402	91.35	2,335	11.45-	184.4+	2,158-	2.09
San Francisco, CA	163,753	89.02	1,709	10.04-	182.8	1,859-	2.31
San Jose, CA	105,258	99.50	1,027	9.84-	190.8	1,893-	1.67-
Santa Barbara, CA	38,021	99.70	366	9.33-	192.5	1,781-	1.94
Santa Cruz, CA	24,640	99.77	327	12.58-	130.6	1,646-	2.20
Santa Rosa, CA	44,775	99.49	581	12.81-	141.4	1,782-	2.68
Stockton, CA	40,855	91.54	580	13.92	184.5	2,648	2.37
Vallejo, CA	35,778	98.59	481	13.41	180.4	2,446	2.28
Visalia, CA	28,811	99.91	598	20.68+	162.2	3,312	2.59
Yuba City, CA	11,835	99.35	224	19.52	140.1	2,787	2.77
Alaska	16,348	99.78	295	19.73	103.4-	1,993	1.99
Anchorage, AK	5,625	99.75	100	21.02	154.9	3,309	1.91
Hawaii	80,233	83.64	863	10.89-	199.1+	2,207	2.04
Honolulu, HI	57,680	83.31	602	10.77-	204.9	2,228	1.84

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (P<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Diseases of the gallbladder

In 1986, there were 167,468 discharges in which the principal diagnosis was a disease of the gallbladder, giving an overall rate for these diseases of 6.27 discharges per 1,000 aged Medicare enrollees. The 30-day post-admission mortality was slightly more than 3 percent (31.7 deaths per 1,000 discharges). This rate was less than one-half of the 30-day post-admission mortality rate for all hospitalizations (79.6 deaths per 1,000 discharges). The 30-day post-admission death rate per 1,000 enrollees was 0.20. The death rate among all aged persons for diseases of the gallbladder was 0.11 per 1,000.

Age and sex patterns

Women had a discharge rate approximately 17 percent higher than that for men in the age group 65–74 years (6.09 discharges versus 5.20), but they had lower rates in the two older age groups. Across all age groups, women consistently had lower 30-day post-admission mortality rates than men, both as a rate per 1,000 discharges and as a rate per 1,000 enrollees.

Hospital discharge rates and death rates among the aged population for gallbladder disease increased with age for both men and women. From the youngest to the oldest age groups, the hospital discharge rates increased by 24 percent for women and 52 percent for men. The 30-day post-admission

death rate associated with gallbladder disease increased 4.6 times with age, rising from 17.1 deaths per 1,000 discharges for persons aged 65–74 years to 78.5 deaths for persons 85 years or over.

Patterns by race

The discharge rate for white persons was 59 percent higher than the rate for black persons (6.46 versus 4.07). The discharge rate for white men was more than double that for black men (6.22 versus 2.83), and the rate for white women was 35 percent higher than that for black women (6.62 versus 4.89). The population death rate (deaths per 1,000 aged persons) was similar for black persons and white persons for all age-sex groups except the oldest, in which white persons had a higher death rate.

The 30-day post-admission mortality rates per 1,000 discharges were substantially higher for black than white persons for all age-sex groups except the oldest women. These differences by race in the post-admission death rates likely reflect a greater severity of illness for black persons than for white persons.

Variations by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region, division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan

statistical area (MSA) level are shown in Table 3. Figure 1 was derived from the data in these tables.

Discharge rates

Data on each U.S. census division are shown in the boxplots in Figure 1. The lowest median discharge rate was in the Pacific Division, and the highest median rate was found in the East South Central Division. The highest discharge rate of any State was 8.80 discharges per 1,000 enrollees in North Dakota, and the lowest rate was 2.46 in the District of Columbia, followed by California, with a rate of 4.68 (Table 2). The low rate for the District of Columbia likely results from its relatively large black Medicare population and from the incompleteness of the discharge data for the District of Columbia.

Population death rates

The death rate for gallbladder disease comprises only a small fraction of the total death rate (about 0.2 percent), and there were only about 3,000 deaths from gallbladder disease in the United States for persons 65 years of age or over. The District of Columbia and North Dakota had the lowest population death rates (0.06) from diseases of the gallbladder; Alaska and Rhode Island had the highest, 0.28 and 0.19, respectively.

NOTE: Diseases of the gallbladder is ICD-9-CM codes 574–576.

Correlations between rates

There was no correlation between the discharge rate and the 30-day post-admission death rate per 1,000 discharges for diseases of the gallbladder. The correlation between the discharge rate per 1,000 enrollees and the population death rate per 1,000 persons was 0.26. This indicates a small positive association between population mortality and hospitalizations for this condition.

Urban-rural patterns

In the Nation as a whole, the discharge rate per 1,000 enrollees for diseases of the gallbladder was substantially higher for rural areas than for the MSAs combined (7.73 versus 5.72). This pattern was true for each of the U.S. census regions.

The 30-day post-admission death rate per 1,000 discharges for the Nation as a whole was lower for rural areas than for the MSAs combined (30.1 versus 32.6). This pattern held for all of the regions.

Nationally, the death rate per 1,000 aged persons was slightly higher for rural areas than for the MSAs combined (0.13 versus 0.11). This was also the pattern for each census region.

Table 1. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

Age, sex, and race	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
All persons (1)	26,698,924	96.70	167,468	6.27	31.7	0.20	0.11
65-74 years	16,162,594	96.33	92,242	5.70	17.1	0.10	0.04
75-84 years	8,020,447	96.96	55,975	6.97	39.7	0.28	0.15
85 years or over	2,515,883	98.32	19,251	7.65	78.5	0.60	0.44
Men	10,650,991	96.01	63,455	5.95	37.4	0.22	0.12
65-74 years	7,056,445	95.90	36,757	5.20	23.1	0.12	0.05
75-84 years	2,912,366	96.02	21,307	7.31	48.7	0.36	0.20
85 years or over	682,180	97.22	5,391	7.90	89.8	0.71	0.50
Women	16,047,933	97.16	104,013	6.48	28.3	0.18	0.11
65-74 years	9,106,149	96.66	55,485	6.09	13.2	0.08	0.03
75-84 years	5,108,081	97.51	34,668	6.78	34.2	0.23	0.12
85 years or over	1,833,703	98.74	13,860	7.55	74.1	0.56	0.42
White	23,574,066	96.62	152,452	6.46	31.5	0.20	0.11
65-74 years	14,207,064	96.23	83,824	5.90	16.6	0.10	0.04
75-84 years	7,134,499	96.88	51,048	7.15	39.6	0.28	0.15
85 years or over	2,232,503	98.26	17,580	7.87	78.7	0.62	0.46
Men	9,391,016	95.94	58,458	6.22	37.0	0.23	0.13
65-74 years	6,216,472	95.83	33,881	5.45	22.8	0.12	0.05
75-84 years	2,573,989	95.94	19,589	7.61	48.3	0.37	0.20
85 years or over	600,555	97.12	4,988	8.30	39.0	0.74	0.54
Women	14,183,050	97.07	93,994	6.62	28.0	0.19	0.11
65-74 years	7,990,592	96.55	49,943	6.25	12.4	0.08	0.03
75-84 years	4,560,510	97.42	31,459	6.89	34.2	0.24	0.12
85 years or over	1,631,948	98.69	12,592	7.71	74.7	0.58	0.43
Black	1,991,943	97.86	8,126	4.07	41.0	0.17	0.10
65-74 years	1,213,014	97.54	4,201	3.46	28.1	0.10	0.05
75-84 years	583,429	98.11	2,826	4.84	47.1	0.23	0.15
85 years or over	195,500	99.11	1,099	5.62	74.6	0.42	0.25
Men	792,788	97.49	2,251	2.83	56.0	0.16	0.09
65-74 years	519,305	97.28	1,173	2.25	36.7	0.08	0.04
75-84 years	215,401	97.67	852	3.95	69.2	0.27	0.18
85 years or over	58,082	98.74	226	3.89	106.2	0.41	0.22
Women	1,199,155	98.10	5,875	4.89	35.2	0.17	0.10
65-74 years	693,709	97.74	3,028	4.36	24.8	0.11	0.06
75-84 years	368,028	98.37	1,974	5.36	37.5	0.20	0.13
85 years or over	137,418	99.26	873	6.35	66.4	0.42	0.26

(1) Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.
 SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	167,468	6.27	31.7	0.197	0.12
Metropolitan	19,363,284	95.80	110,710	5.72-	32.6	0.185	0.11-
Rural	7,335,640	99.16	56,758	7.73+	30.1	0.231+	0.13
Northeast	6,276,897	98.04	35,676	5.67-	33.0	0.190	0.12
Metropolitan	5,564,648	97.84	30,554	5.48-	33.3	0.185	0.12
Rural	712,249	99.69	5,122	7.19+	31.3	0.229	0.14
New England	1,569,313	96.20	9,034	5.73-	34.7	0.205	0.13
Metropolitan	1,342,886	95.66	7,579	5.62-	35.5	0.205	0.13
Rural	226,427	99.53	1,455	6.41	30.4	0.199	0.11
Maine	153,209	99.88	944	6.14	34.8	0.221	0.10
Metropolitan	82,345	99.89	445	5.38	48.1	0.261	0.10
Rural	70,864	99.87	499	7.02	23.7	0.176	0.10
New Hampshire	114,752	98.98	681	5.93	32.7	0.191	0.17
Metropolitan	74,135	98.55	445	6.00	29.8	0.175	0.19
Rural	40,617	99.77	236	5.82	37.9	0.220	0.14
Vermont	62,781	99.82	403	6.40	29.0	0.186	0.13
Metropolitan	10,422	99.91	40	3.82-	0.0	0.000	0.00
Rural	52,359	99.80	363	6.91	32.2	0.223	0.16
Massachusetts	709,478	93.75	4,142	5.80-	36.2	0.218	0.12
Metropolitan	659,025	93.40	3,854	5.80-	36.0	0.218	0.13
Rural	50,453	98.58	288	5.71	38.7	0.217	0.08
Rhode Island	132,332	97.59	852	6.42	36.9	0.233	0.19
Metropolitan	132,332	97.59	852	6.42	36.9	0.233	0.19
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Connecticut	396,761	97.56	2,012	5.07-	32.3	0.172	0.12
Metropolitan	384,627	97.50	1,943	5.06-	32.9	0.175	0.13
Rural	12,134	99.66	69	5.67	14.6	0.081	0.00
Middle Atlantic	4,707,584	98.68	26,642	5.65-	32.4	0.186	0.12
Metropolitan	4,221,762	98.55	22,975	5.44-	32.5	0.179-	0.11
Rural	485,822	99.76	3,667	7.56+	31.6	0.244	0.16
New York	2,143,249	98.98	10,878	5.05-	33.1	0.172	0.12
Metropolitan	1,922,371	98.89	9,362	4.84-	33.3	0.166-	0.11
Rural	220,878	99.75	1,516	6.85	31.6	0.220	0.14

See notes at end of table.

Table 2. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
New Jersey	916,155	97.84	5,089	5.57-	33.6	0.188	0.12
Metropolitan	916,155	97.84	5,089	5.57-	33.6	0.188	0.12
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Pennsylvania	1,648,180	98.75	10,675	6.49	31.1	0.204	0.12
Metropolitan	1,383,236	98.56	8,524	6.18	31.0	0.192	0.11
Rural	264,944	99.78	2,151	8.15+	31.6	0.266	0.17
North Central	6,901,975	96.39	45,521	6.57+	32.8	0.213+	0.12
Metropolitan	4,398,761	95.22	26,454	6.01-	34.3	0.203	0.11
Rural	2,503,214	98.51	19,067	7.57+	30.8	0.230+	0.12
East North Central	4,745,430	97.76	30,623	6.45+	33.9	0.216+	0.11
Metropolitan	3,453,558	97.13	20,813	6.03-	34.7	0.206	0.11
Rural	1,291,872	99.47	9,810	7.58+	32.3	0.242+	0.12
Ohio	1,263,869	99.46	8,258	6.55	30.3	0.195	0.11
Metropolitan	987,528	99.60	6,144	6.24	32.7	0.201	0.11
Rural	276,341	98.95	2,114	7.65+	23.3	0.171	0.08
Indiana	623,062	97.86	4,076	6.54	36.3	0.228	0.11
Metropolitan	399,457	97.01	2,433	6.09	36.9	0.215	0.09
Rural	223,605	99.41	1,643	7.34+	35.5	0.251	0.14
Illinois	1,265,011	95.90	8,327	6.57+	34.2	0.228	0.13
Metropolitan	952,934	94.73	5,738	6.02	34.5	0.208	0.12
Rural	312,077	99.68	2,589	8.23+	33.7	0.284+	0.15
Michigan	982,444	96.86	6,002	6.13	37.3	0.220	0.10
Metropolitan	744,347	96.06	4,222	5.69-	38.0	0.208	0.10
Rural	238,097	99.44	1,780	7.52+	35.5	0.260	0.11
Wisconsin	611,044	99.60	3,960	6.45	33.3	0.216	0.13
Metropolitan	389,292	99.43	2,276	6.14	32.2	0.198	0.13
Rural	241,752	99.86	1,684	6.94+	34.7	0.243	0.13
West North Central	2,156,545	93.50	14,898	6.84+	30.7	0.208	0.12
Metropolitan	945,203	88.82	5,641	5.92-	33.0	0.194	0.13
Rural	1,211,342	97.51	9,257	7.55+	29.4	0.219	0.12
Minnesota	397,258	77.30	2,340	5.81	34.7	0.207	0.13
Metropolitan	187,915	67.07	932	4.88-	43.9	0.228	0.15
Rural	209,343	89.55	1,408	6.64	28.4	0.189	0.10

See notes at end of table.

Table 2. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Iowa	404,057	99.37	2,908	7.12+	31.0	0.216	0.14
	136,818	98.24	909	6.60	35.8	0.239	0.18
	267,239	99.96	1,999	7.39+	28.7	0.204	0.13
Missouri	655,875	98.17	4,424	6.70+	29.0	0.191	0.13
	383,255	96.99	2,430	6.29	31.8	0.195	0.13
	272,620	99.88	1,994	7.26+	25.7	0.187	0.13
North Dakota	85,433	98.28	758	8.80+	14.9-	0.129	0.06
	22,964	98.14	142	6.13	6.9-	0.040-	0.08
	62,469	98.34	616	9.78+	16.7-	0.162	0.06
South Dakota	96,216	99.59	759	7.81+	28.4	0.218	0.18
	20,427	99.92	139	6.78	8.3-	0.046-	0.14
	75,789	99.51	620	8.08+	31.9	0.260	0.19
Nebraska	209,910	98.52	1,484	6.98+	35.6	0.247	0.14
	70,076	95.86	341	4.83-	31.3	0.136	0.10
	139,834	99.91	1,143	8.04+	36.7	0.299	0.15
Kansas	307,796	95.82	2,225	7.15+	31.9	0.226	0.07-
	123,748	93.24	748	6.01	27.4	0.172	0.06-
	184,048	97.63	1,477	7.90+	34.3	0.259	0.08
South	8,980,101	97.94	62,124	6.93+	30.3	0.207	0.12
	5,757,016	96.87	35,715	6.22	30.7	0.187	0.12
	3,223,085	99.91	26,409	8.20+	29.8	0.242+	0.13
South Atlantic	4,668,855	96.31	28,349	6.09-	30.6	0.185	0.12
	3,313,125	94.94	19,001	5.75-	30.9	0.175-	0.11
	1,355,730	99.84	9,348	6.94+	29.9	0.209	0.14
Delaware	70,251	99.94	431	6.19	39.3	0.223	0.07
	44,355	99.95	267	6.06	42.3	0.235	0.05
	25,896	99.94	164	6.40	34.5	0.202	0.11
Maryland	436,606	99.49	2,289	5.27-	32.4	0.168	0.12
	395,091	99.44	2,043	5.20-	33.2	0.170	0.12
	41,515	99.95	246	5.94	25.9	0.145	0.14
District of Col.	66,196	99.75	165	2.46-	59.3	0.142	0.06
	66,196	99.75	165	2.46-	59.3	0.142	0.06
	0	0.00	0	0.00	0.0	0.000	0.00

See notes at end of table.

Table 2. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1966

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	3,326	5.91	30.6	0.184	0.13
Metropolitan	355,193	99.87	1,835	5.20-	35.3	0.182	0.13
Rural	210,942	99.97	1,491	7.10+	25.3	0.187	0.13
West Virginia	244,259	98.98	1,972	8.08+	28.5	0.226	0.15
Metropolitan	90,704	97.39	655	7.23	25.3	0.168	0.08
Rural	153,555	99.95	1,317	8.58+	29.9	0.259	0.18
North Carolina	689,138	99.93	3,734	5.45-	34.0	0.187	0.13
Metropolitan	346,905	99.89	1,771	5.13-	32.7	0.170	0.12
Rural	342,233	99.96	1,963	5.78	35.2	0.203	0.14
South Carolina	329,020	99.44	2,199	6.75	30.3	0.197	0.13
Metropolitan	186,873	99.05	1,286	6.96	30.1	0.197	0.14
Rural	142,147	99.95	913	6.49	30.7	0.195	0.11
Georgia	561,716	99.71	4,047	7.24+	32.6	0.228	0.14
Metropolitan	313,319	99.54	2,026	6.50	36.4	0.225	0.15
Rural	248,397	99.93	2,021	8.16+	28.9	0.233	0.13
Florida	1,705,534	90.97	10,186	5.98-	27.8	0.166-	0.10-
Metropolitan	1,514,489	90.04	8,953	5.91-	27.7	0.163-	0.09-
Rural	191,045	99.17	1,233	6.54	29.0	0.193	0.14
East South Central	1,726,272	99.80	14,292	8.27+	30.4	0.249+	0.15+
Metropolitan	873,594	99.64	6,209	7.11+	31.9	0.221	0.15
Rural	852,678	99.97	8,083	9.45+	29.3	0.275+	0.15
Kentucky	422,657	99.70	3,699	8.74+	31.9	0.279+	0.18+
Metropolitan	183,264	99.37	1,321	7.20+	31.7	0.220	0.17
Rural	239,393	99.96	2,378	9.92+	32.0	0.324+	0.18
Tennessee	550,327	99.65	4,450	8.09+	32.3	0.257+	0.17+
Metropolitan	342,007	99.46	2,386	6.98+	36.1	0.242	0.16
Rural	208,320	99.96	2,064	9.92+	28.2	0.279	0.18
Alabama	463,131	99.97	3,582	7.74+	29.4	0.223	0.12
Metropolitan	281,960	99.97	2,007	7.14+	28.5	0.200	0.14
Rural	181,171	99.97	1,575	8.68+	30.5	0.256	0.09
Mississippi	290,157	99.98	2,561	8.78+	26.6	0.228	0.14
Metropolitan	66,363	99.96	495	7.48	26.5	0.198	0.14
Rural	223,794	99.98	2,066	9.15+	26.6	0.237	0.14

See notes at end of table.

Table 2. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
West South Central							
Metropolitan	2,584,974	99.74	19,483	7.53+	29.8	0.221+	0.11
Rural	1,570,297	99.59	10,505	6.70+	29.7	0.196	0.12
	1,014,677	99.97	8,978	8.81+	30.0	0.258+	0.11
Arkansas							
Metropolitan	321,739	99.96	2,700	8.38+	32.2	0.262	0.13
Rural	100,966	99.98	744	7.36+	37.4	0.275	0.15
	220,773	99.95	1,956	8.85+	30.2	0.256	0.12
Louisiana							
Metropolitan	415,968	99.98	3,202	7.69+	27.8	0.200	0.12
Rural	268,137	99.98	1,813	6.77	24.9	0.157	0.11
	147,831	99.99	1,389	9.34+	31.4	0.271	0.13
Oklahoma							
Metropolitan	378,716	99.02	3,205	8.42+	22.5-	0.186	0.10
Rural	180,038	98.00	1,334	7.39+	20.8-	0.147	0.10
	198,678	99.96	1,871	9.35+	23.7	0.219	0.09
Texas							
Metropolitan	1,468,551	99.81	10,376	7.07+	32.1	0.227	0.11
Rural	1,021,156	99.73	6,614	6.50	31.8	0.206	0.12
	447,395	99.97	3,762	8.37+	32.5	0.271+	0.11
West							
Metropolitan	4,539,951	93.08	24,147	5.34-	31.3	0.166-	0.10-
Rural	3,642,859	91.96	17,987	4.95-	54.3	0.158-	0.10-
	897,092	97.88	6,160	6.93+	28.3	0.196	0.13
Mountain							
Metropolitan	1,200,638	94.36	7,815	6.56	28.1	0.181	0.12
Rural	720,893	92.10	4,145	5.79-	30.0	0.170	0.10
	479,745	97.98	3,670	7.71+	26.0	0.197	0.15
Montana							
Metropolitan	97,248	99.90	736	7.60+	21.6	0.163	0.11
Rural	21,173	99.90	123	5.84	8.6-	0.048-	0.09
	76,075	99.91	613	8.09+	24.0	0.194	0.11
Idaho							
Metropolitan	109,822	99.77	742	6.80	19.9	0.128	0.12
Rural	18,471	99.90	114	6.21	19.9	0.110	0.16
	91,351	99.74	628	6.92	19.9	0.131	0.11
Wyoming							
Metropolitan	42,408	99.91	321	7.60	37.2	0.280	0.11
Rural	12,265	99.93	78	6.40	42.2	0.250	0.16
	30,143	99.89	243	8.08	35.7	0.293	0.10
Colorado							
Metropolitan	266,663	94.73	1,615	6.06	29.0	0.178	0.13
Rural	201,737	95.23	1,172	5.82	29.7	0.178	0.11
	64,926	93.22	443	6.82	27.1	0.177	0.17

See notes at end of table.

Table 2. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
New Mexico	125,371	92.49	1,001	8.03+	16.6-	0.136	0.18
Metropolitan	51,612	85.86	296	5.78	6.6-	0.039-	0.10
Rural	73,759	97.76	705	9.60+	20.7	0.201	0.24
Arizona	348,748	91.33	2,041	5.92	34.7	0.200	0.11
Metropolitan	257,931	89.11	1,383	5.40-	37.2	0.194	0.09
Rural	90,817	98.31	658	7.41+	29.5	0.218	0.19
Utah	128,579	99.92	925	7.23+	28.9	0.197	0.14
Metropolitan	93,319	99.94	652	7.03	25.1	0.164	0.15
Rural	35,260	99.88	273	7.78	37.3	0.283	0.11
Nevada	81,799	86.15	434	5.45	41.0	0.209	0.07
Metropolitan	64,385	84.73	327	5.22	44.3	0.213	0.06
Rural	17,414	91.83	107	6.30	31.6	0.193	0.12
Pacific	3,339,313	92.62	16,332	4.90-	32.8	0.159-	0.10-
Metropolitan	2,921,966	91.93	13,842	4.74-	33.0	0.155-	0.09-
Rural	417,347	97.77	2,490	6.03	31.7	0.195	0.11
Washington	461,706	92.41	2,587	5.62-	29.2	0.163	0.10
Metropolitan	346,977	90.86	1,833	5.29-	25.7	0.134-	0.08-
Rural	114,729	97.42	754	6.62	37.6	0.252	0.13
Oregon	303,778	86.84	1,706	5.62-	29.0	0.169	0.08-
Metropolitan	181,677	80.38	904	4.95-	33.7	0.174	0.09
Rural	122,101	98.65	802	6.64	23.3	0.159	0.07
California	2,477,248	93.71	11,587	4.68-	34.2	0.158-	0.09-
Metropolitan	2,330,007	93.36	10,820	4.65-	34.4	0.157-	0.10-
Rural	147,241	99.57	767	5.27-	31.0	0.168	0.07
Alaska	16,348	99.78	77	4.85	0.0	0.000	0.28
Metropolitan	5,625	99.75	28	5.17	0.0	0.000	0.22
Rural	10,723	99.80	49	4.69	0.0	0.000	0.31
Hawaii	80,233	83.64	375	4.75-	38.9	0.190	0.16
Metropolitan	57,680	83.31	257	4.54-	26.6	0.127	0.11
Rural	22,553	84.47	118	5.28	65.4	0.342	0.29

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate ($p < .01$).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	167,468	6.27	31.7	0.197	0.12
Northeast	6,276,897	98.04	35,676	5.67-	33.0	0.190	0.12
New England	1,569,313	96.20	9,034	5.73-	34.7	0.205	0.13
Maine	153,209	99.88	944	6.14	34.8	0.221	0.10
Bangor, ME	16,035	99.87	98	6.09	50.4	0.304	0.12
Lewiston-Auburn, ME	13,464	99.93	69	5.09	60.7	0.289	0.07
Portland, ME	52,846	99.89	278	5.24	44.5	0.240	0.10
New Hampshire	114,752	98.98	681	5.93	32.7	0.191	0.17
Manchester, NH	44,397	97.91	272	6.10	27.4	0.155	0.21
Portsmouth, NH	29,738	99.52	173	5.83	33.2	0.204	0.16
Vermont	62,781	99.82	403	6.40	29.0	0.186	0.13
Burlington, VT	10,422	99.91	40	3.82-	0.0	0.000	0.00
Massachusetts	709,478	93.75	4,142	5.80-	36.2	0.218	0.12
Boston, MA	429,794	95.67	2,471	5.70-	29.3	0.173	0.12
New Bedford, MA	65,540	98.67	412	6.29	47.6	0.308	0.21
Pittsfield, MA	20,281	91.00	125	6.13	79.1	0.480	0.08
Springfield, MA	72,225	92.57	423	5.84	42.5	0.259	0.13
Worcester, MA	71,185	79.42	423	5.88	45.7	0.294	0.12
Rhode Island	132,332	97.59	852	6.42	36.9	0.233	0.19
Providence, RI	132,332	97.59	852	6.42	36.9	0.233	0.19
Connecticut	396,761	97.56	2,012	5.07-	32.3	0.172	0.12
Bridgeport, CT	96,911	96.63	477	4.92-	24.5	0.134	0.11
Hartford, CT	157,139	99.16	793	5.05-	28.8	0.147	0.14
New Haven, CT	102,964	95.31	510	4.95-	46.4	0.242	0.13
New London, CT	27,613	99.70	163	5.93	35.4	0.222	0.10

See notes at end of table.

Table 3. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1985

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Middle Atlantic	4,707,584	98.68	26,642	5.65-	32.4	0.186	0.12
New York	2,143,249	98.98	10,878	5.05-	33.1	0.172	0.12
Albany, NY	115,122	98.78	567	4.91-	23.0	0.111-	0.11
Binghamton, NY	35,576	99.96	201	5.64	14.5	0.083	0.05
Buffalo, NY	134,451	98.66	679	5.07-	39.5	0.199	0.16
Elmira, NY	13,699	99.94	68	4.96	27.6	0.144	0.07
Glens Falls, NY	15,222	99.63	102	6.68	27.5	0.194	0.25
Nassau-Suffolk, NY	297,143	99.88	1,499	5.07-	35.1	0.182	0.13
New York, NY	997,473	99.58	4,427	4.39-	34.2	0.156-	0.11
Niagara Falls, NY	30,841	99.69	213	6.97	40.4	0.273	0.13
Orange County, NY	30,488	99.89	177	5.80	50.6	0.294	0.10
Poughkeepsie, NY	27,864	98.47	195	6.96	22.2	0.173	0.10
Rochester, NY	102,542	98.80	560	5.43	31.6	0.189	0.10
Syracuse, NY	75,217	99.92	375	4.99-	30.5	0.161	0.14
Utica-Rome, NY	46,733	99.90	299	6.41	33.2	0.214	0.10
New Jersey	916,155	97.84	5,089	5.57-	33.6	0.188	0.12
Atlantic City, NJ	46,406	97.93	236	5.07	29.2	0.147	0.12
Bergen-Passaic, NJ	171,246	99.45	955	5.59	33.9	0.189	0.14
Jersey City, NJ	64,069	99.25	419	6.55	19.1	0.127	0.15
Middlesex, NJ	91,009	94.70	535	5.96	23.9	0.154	0.07
Monmouth-Ocean, NJ	154,643	99.57	871	5.64	36.1	0.197	0.14
Newark, NJ	211,511	99.40	1,118	5.28-	34.4	0.185	0.12
Trenton, NJ	38,499	97.14	206	5.37	13.8	0.079-	0.10
Vineland, NJ	16,382	96.17	85	5.22	54.5	0.254	0.12
Pennsylvania	1,648,180	98.75	10,675	6.49	31.1	0.204	0.12
Allentown, PA-NJ	94,668	99.09	628	6.67	28.9	0.187	0.07
Altoona, PA	20,692	99.99	133	6.42	30.5	0.192	0.18
Beaver County, PA	27,562	99.95	194	7.14	34.1	0.236	0.15
Erie, PA	35,244	99.92	229	6.56	32.2	0.208	0.12
Harrisburg, PA	72,929	99.95	441	6.06	24.0	0.140	0.08
Johnstown, PA	40,260	99.97	342	8.57+	19.9	0.183	0.15
Lancaster, PA	48,045	99.93	276	5.72	15.0	0.080-	0.02-
Philadelphia PA-NJ	569,054	95.81	3,050	5.36-	32.9	0.181	0.10
Pittsburgh, PA	323,494	99.06	2,184	6.79	35.6	0.245	0.12
Reading, PA	48,476	99.88	260	5.36	38.9	0.206	0.14
Scranton, PA	122,888	99.95	854	6.98	33.5	0.223	0.08
Sharon, PA	19,009	99.97	146	7.72	30.3	0.216	0.15
State College, PA	10,032	99.97	65	6.50	28.6	0.203	0.10
Williamsport, PA	16,877	99.98	91	5.38	33.2	0.175	0.11
York, PA	48,541	99.96	250	5.16	49.0	0.249	0.16

See notes at end of table.

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
North Central	6,901,975	96.39	45,521	6.57+	32.8	0.213+	0.12
East North Central	4,745,430	97.76	30,623	6.45+	33.9	0.216+	0.11
Ohio	1,263,869	99.46	8,258	6.55	30.3	0.195	0.11
Akron, OH	75,615	99.90	449	5.96	29.6	0.175	0.09
Canton, OH	51,895	99.97	323	6.26	25.0	0.158	0.17
Cincinnati, OH-KY-IN	159,407	99.96	1,022	6.39	33.8	0.218	0.15
Cleveland, OH	242,585	99.71	1,452	6.02	35.6	0.222	0.10
Columbus, OH	121,377	99.73	753	6.21	30.3	0.175	0.06-
Dayton, OH	103,547	99.95	638	6.19	30.8	0.178	0.10
Hamilton, OH	26,009	99.95	194	7.47	21.2	0.155	0.15
Lima, OH	19,579	99.97	118	6.03	53.5	0.304	0.19
Lorain-Elyria, OH	27,340	99.85	175	6.48	35.2	0.234	0.07
Mansfield, OH	15,230	99.96	87	5.74	55.0	0.273	0.26
Steubenville, OH-WV	21,934	98.57	182	8.38	11.2-	0.097	0.00
Toledo, OH	70,660	99.95	421	5.95	35.2	0.199	0.11
Youngstown, OH	69,319	99.95	423	6.17	33.2	0.199	0.16
Indiana	623,062	97.86	4,076	6.54	36.3	0.228	0.11
Anderson, IN	17,198	99.83	128	7.45	16.9	0.120	0.18
Bloomington, IN	7,913	99.87	31	3.91	0.0	0.000	0.00
Elkhart-Goshen, IN	15,647	99.92	91	5.80	10.1	0.062	0.06
Evansville, IN-KY	34,434	95.72	219	6.33	53.0	0.343	0.16
Fort Wayne, IN	37,565	97.77	203	5.39	21.0	0.105	0.05
Gary-Hammond, IN	61,160	97.01	400	6.63	36.3	0.230	0.13
Indianapolis, IN	118,407	93.81	694	5.85	35.7	0.202	0.07
Kokomo, IN	10,842	99.94	79	7.30	87.7	0.565	0.36
Lafayette, IN	11,228	99.92	76	6.74	28.1	0.173	0.00
Muncie, IN	13,759	99.91	85	6.18	35.8	0.224	0.00
South Bend, IN	33,170	99.93	217	6.54	43.2	0.272	0.06
Terre Haute, IN	19,585	99.89	111	5.64	37.7	0.202	0.00
Illinois	1,265,011	95.90	8,327	6.57+	34.2	0.228	0.13
Aurora-Elgin, IL	30,946	98.68	224	7.21	31.1	0.222	0.18
Bloomington, IL	12,672	99.94	89	6.96	80.6	0.676	0.36
Champaign, IL	13,391	99.91	91	6.78	42.8	0.295	0.20
Chicago, IL	608,135	92.94	3,438	5.65-	34.7	0.200	0.12
Decatur, IL	15,992	99.97	109	6.78	19.6	0.122	0.00
Joliet, IL	28,047	97.18	211	7.55	22.9	0.183	0.13
Kankakee, IL	12,020	99.94	72	6.00	30.7	0.167	0.24
Lake County, IL	36,099	96.52	224	6.25	14.4	0.086	0.10
Peoria, IL	43,549	99.93	306	7.01	29.9	0.204	0.09
Rockford, IL	28,351	88.93	167	5.89	33.2	0.209	0.17
Springfield, IL	24,799	99.96	169	6.77	37.3	0.238	0.11

See notes at end of table.

Table 3. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Michigan	982,444	96.86	6,002	6.13	37.3	0.220	0.10
Ann Arbor, MI	17,760	95.12	89	5.00	65.9	0.331	0.19
Battle Creek, MI	16,831	99.89	121	7.18	27.8	0.177	0.05
Benton Harbor, MI	21,618	99.88	136	6.31	41.0	0.281	0.14
Detroit, MI	448,826	96.43	2,544	5.70-	41.9	0.227	0.09
Flint, MI	43,084	91.01	231	5.36	40.4	0.212	0.06
Grand Rapids, MI	64,091	95.42	354	5.50	37.9	0.212	0.17
Jackson, MI	17,046	99.82	104	6.12	9.8	0.059-	0.06
Kalamazoo, MI	21,512	99.85	102	4.73	32.7	0.139	0.04
Lansing, MI	32,460	90.23	168	5.16	24.2	0.121	0.13
Muskegon, MI	18,957	98.06	122	6.48	18.7	0.109	0.00
Saginaw, MI	42,162	96.18	251	5.98	21.5	0.122	0.02-
Wisconsin	611,044	99.60	3,960	6.45	33.3	0.216	0.13
Appleton, WI	34,483	99.96	216	6.24	36.0	0.253	0.22
Eau Claire, WI	16,955	99.94	111	6.51	16.5	0.111	0.05
Green Bay, WI	19,185	99.97	108	5.62	62.1	0.362	0.31
Janesville, WI	16,529	99.85	123	7.39	50.7	0.349	0.22
Kenosha, WI	14,291	99.91	62	4.34	53.2	0.208	0.13
LaCrosse, WI	11,858	99.91	71	5.93	0.0	0.000	0.15
Madison, WI	30,776	99.74	160	5.17	17.5	0.093	0.06
Milwaukee, WI	166,813	99.21	1,045	6.23	31.9	0.187	0.09
Racine, WI	20,503	99.90	106	5.16	40.7	0.192	0.09
Sheboygan, WI	14,461	99.98	106	7.30	36.5	0.268	0.26
Wausau, WI	12,945	99.95	77	5.95	19.2	0.151	0.07
West North Central	2,156,545	93.50	14,898	6.84+	30.7	0.208	0.12
Minnesota	397,258	77.30	2,340	5.81	34.7	0.207	0.13
Duluth, MN-WI	29,977	76.74	166	5.51	40.7	0.259	0.22
Minneapolis, MN-WI	141,769	64.45	708	4.90-	46.0	0.235	0.14
Rochester, MN	9,393	99.67	48	5.04	0.0	0.000	0.09
St. Cloud, MN	12,248	70.92	76	6.10	40.1	0.287	0.05
Iowa	404,057	99.37	2,908	7.12+	31.0	0.216	0.14
Cedar Rapids, IA	19,323	99.94	146	7.52	19.2	0.150	0.14
Davenport, IA-IL	44,646	99.94	273	6.10	53.9	0.332	0.15
Des Moines, IA	40,067	94.50	245	6.07	42.5	0.265	0.20
Dubuque, IA	11,460	99.95	69	5.97	47.4	0.253	0.08
Iowa City, IA	6,240	99.90	34	5.40	59.8	0.305	0.28
Sioux City, IA-NE	15,951	99.96	99	6.13	17.5	0.116	0.06
Waterloo, IA	19,521	99.96	147	7.50	35.5	0.248	0.29

See notes at end of table.

Table 3. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Missouri	655,875	98.17	4,424	6.70+	29.0	0.191	0.13
Columbia, MO	8,560	99.98	61	7.09	53.9	0.338	0.11
Joplin, MO	19,275	99.95	134	6.93	15.8	0.103	0.10
Kansas City, MO-KS	154,919	95.72	947	6.07	28.9	0.181	0.15
St. Joseph, MO	13,630	99.97	99	7.19	42.2	0.279	0.20
St. Louis, MO-IL	283,167	97.43	1,810	6.36	31.1	0.191	0.10
Springfield, MO	27,676	99.94	196	7.04	37.4	0.246	0.13
North Dakota	85,433	98.28	758	8.80+	14.9-	0.129	0.06
Bismarck, ND	8,160	95.13	59	7.20	17.3	0.118	0.00
Fargo, ND-MN	14,138	96.57	74	5.17	12.8	0.063	0.12
Grand Forks, ND	5,687	99.95	34	5.91	0.0	0.000	0.15
South Dakota	96,216	99.59	759	7.81+	28.4	0.218	0.18
Rapid City, SD	7,152	99.89	33	4.62	0.0	0.000	0.00
Sioux Falls, SD	13,275	99.93	106	7.93	10.9	0.071	0.20
Nebraska	209,910	98.52	1,484	6.98+	35.6	0.247	0.14
Lincoln, NE	20,994	98.50	120	5.65	35.1	0.178	0.13
Omaha, NE-IA	57,609	95.39	290	5.00-	33.6	0.151	0.09
Kansas	307,796	95.82	2,225	7.15+	31.9	0.226	0.07-
Lawrence, KS	4,965	87.78	27	5.37	0.0	0.000	0.15
Topeka, KS	18,983	97.26	106	5.51	32.8	0.194	0.04
Wichita, KS	45,844	88.57	263	5.70	33.1	0.190	0.04-
South	8,980,101	97.94	62,124	6.93+	30.3	0.207	0.12
South Atlantic	4,668,855	96.31	28,349	6.09-	30.6	0.185	0.12
Delaware	70,251	99.94	431	6.19	39.3	0.223	0.07
Wilmington, DE-NJ-MD	58,114	99.65	365	6.33	40.6	0.233	0.03-
Maryland	436,606	99.49	2,289	5.27-	32.4	0.168	0.12
Baltimore, MD	244,878	99.90	1,242	5.10-	33.0	0.165	0.11
Cumberland, MD-WV	17,051	99.95	132	7.76	39.0	0.302	0.18
Hagerstown, MD	14,522	99.95	81	5.59	51.8	0.279	0.19
District of Col.	66,196	99.75	165	2.46-	59.3	0.142	0.06
Washington, DC-MD-VA	261,121	99.05	1,036	3.98-	42.5	0.164	0.10

See notes at end of table.

Table 3. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	3,326	5.91	30.6	0.184	0.13
Charlottesville, VA	12,020	99.92	61	5.07	15.2	0.083	0.24
Danville, VA	15,532	99.99	88	5.69	24.8	0.133	0.19
Lynchburg, VA	18,110	99.99	108	5.95	55.6	0.332	0.21
Norfolk, VA	102,601	99.96	499	4.91	53.5	0.250	0.13
Richmond, VA	85,698	99.98	496	5.81	18.3	0.109	0.12
Roanoke, VA	30,622	99.98	175	5.68	27.7	0.158	0.12
West Virginia	244,259	98.98	1,972	8.08+	28.5	0.226	0.15
Charleston, WV	34,215	99.96	243	7.14	27.7	0.182	0.06
Huntington, WV-KY-OH	40,891	99.95	306	7.48	18.2	0.121	0.12
Parkersburg, WV-OH	19,888	99.94	163	8.16	12.5	0.098	0.14
Wheeling, WV-OH	22,016	82.51	164	7.43	35.6	0.273	0.11
North Carolina	689,138	99.93	3,734	5.45-	34.0	0.187	0.13
Asheville, NC	24,469	99.92	129	5.25	31.4	0.160	0.04
Burlington, NC	14,505	99.99	78	5.43	24.9	0.148	0.08
Charlotte, NC	109,337	99.79	544	5.01-	34.7	0.175	0.07
Fayetteville, NC	13,388	99.98	68	5.16	53.0	0.253	0.08
Greensboro, NC	99,387	99.97	554	5.60	38.9	0.211	0.19
Hickory, NC	23,392	99.97	132	5.70	22.0	0.139	0.09
Jacksonville, NC	5,134	99.86	28	5.57	0.0	0.000	0.20
Raleigh-Durham, NC	56,484	99.86	255	4.52-	35.3	0.165	0.10
Wilmington, NC	12,634	99.97	70	5.61	28.4	0.173	0.17
South Carolina	329,020	99.44	2,199	6.75	30.3	0.197	0.13
Anderson, SC	16,583	99.70	125	7.60	43.2	0.326	0.31
Charleston, SC	34,246	98.90	199	5.89	33.4	0.192	0.15
Columbia, SC	35,361	99.98	248	7.09	29.5	0.183	0.14
Florence, SC	11,195	99.96	67	6.05	19.6	0.098	0.00
Greenville, SC	65,893	98.01	475	7.27	20.4	0.147	0.16
Georgia	561,716	99.71	4,047	7.24+	32.6	0.228	0.14
Albany, GA	9,292	99.92	61	6.62	27.5	0.230	0.11
Athens, GA	13,510	99.96	105	7.78	31.3	0.229	0.15
Atlanta, GA	189,539	99.27	1,217	6.45	38.2	0.227	0.11
Augusta, GA-SC	32,938	99.93	222	6.81	36.0	0.228	0.15
Columbus, GA-AL	22,847	99.96	126	5.57	20.5	0.095	0.09
Macon, GA	25,929	99.97	158	6.14	54.7	0.332	0.27
Savannah, GA	25,338	99.94	158	6.28	25.4	0.167	0.32

See notes at end of table.

Table 3. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Florida	1,705,534	90.97	10,186	5.98-	27.8	0.166-	0.10-
Bradenton, FL	42,906	99.68	260	6.03	57.4	0.335	0.22
Daytona Beach, FL	62,616	92.90	368	5.88	19.8	0.110	0.07
Fort Lauderdale, FL	181,839	81.09	1,006	5.46-	24.7	0.136	0.09
Fort Myers, FL	61,428	99.65	343	5.67	39.1	0.210	0.02-
Fort Pierce, FL	41,198	99.28	222	5.48	28.1	0.157	0.08
FT. Walton Beach, FL	10,169	99.88	57	5.76	36.4	0.224	0.22
Gainesville, FL	16,758	99.58	99	5.94	29.9	0.183	0.06
Jacksonville, FL	80,895	98.22	460	5.72	20.7	0.116	0.05-
Lakeland, FL	55,495	99.56	367	6.67	37.2	0.224	0.00
Metbourne, FL	46,501	99.72	286	6.28	19.2	0.119	0.11
Miami-Hialeah, FL	168,502	79.57	1,043	6.07	19.4-	0.121-	0.09
Naples, FL	23,433	99.75	105	4.57	49.3	0.232	0.14
Ocala, FL	31,367	99.50	172	5.62	18.9	0.106	0.11
Orlando, FL	90,604	98.55	571	6.35	27.5	0.171	0.13
Panama City, FL	11,817	99.70	93	8.00	10.2	0.092	0.09
Pensacola, FL	29,972	99.89	192	6.48	28.0	0.179	0.00
Sarasota, FL	77,895	99.81	422	5.42	24.5	0.126	0.08
Tallahassee, FL	17,414	97.85	103	5.93	70.7	0.468	0.22
Tampa, FL	323,951	87.05	1,982	6.09	27.2	0.164	0.10
West Palm Beach, FL	139,729	85.22	802	5.73	32.8	0.192	0.12
East South Central	1,726,272	99.80	14,292	8.27+	30.4	0.249+	0.15+
Kentucky	422,657	99.70	3,699	8.74+	31.9	0.279+	0.18+
Lexington, KY	31,008	98.87	215	6.92	29.8	0.191	0.18
Louisville, KY-IN	107,485	99.20	702	6.53	34.8	0.217	0.13
Owensboro, KY	10,319	99.96	118	11.45+	70.3	0.697	0.38
Tennessee	550,327	99.65	4,450	8.09+	32.3	0.257+	0.17+
Chattanooga, TN-GA	50,061	99.97	435	8.70+	41.4	0.348	0.25
Clarksville, TN-KY	12,541	99.91	98	7.80	39.0	0.313	0.36
Jackson, TN	10,064	99.95	83	8.17	10.6	0.095	0.09
Johnson City, TN-VA	55,068	99.97	384	7.01	32.2	0.225	0.11
Knoxville, TN	70,970	99.96	499	7.06	41.6	0.277	0.21
Memphis, TN-AR-MS	88,836	98.06	506	5.68	31.0	0.167	0.16
Nashville, TN	92,994	99.96	679	7.29	32.1	0.227	0.11

See notes at end of table.

Table 3. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Alabama	463,131	99.97	3,582	7.74+	29.4	0.223	0.12
Anniston, AL	13,124	99.97	104	7.98	34.6	0.245	0.16
Birmingham, AL	108,546	99.98	816	7.50+	30.9	0.231	0.18
Dothan, AL	12,690	99.94	96	7.59	0.0	0.000	0.00
Florence, AL	16,687	99.97	126	7.59	30.3	0.248	0.17
Gadsden, AL	14,295	99.97	112	7.90	51.0	0.455	0.22
Huntsville, AL	17,137	99.96	87	5.13	12.2	0.062	0.06
Mobile, AL	50,513	99.96	354	7.06	31.2	0.207	0.10
Montgomery, AL	29,832	99.97	165	5.53	30.2	0.169	0.10
Tuscaloosa, AL	13,604	99.99	101	7.41	11.4	0.072	0.07
Mississippi	290,157	99.98	2,561	8.78+	26.6	0.228	0.14
Biloxi-Gulfport, MS	18,079	99.97	152	8.51	32.3	0.293	0.11
Jackson, MS	35,305	99.98	230	6.48	29.5	0.193	0.16
Pascagoula, MS	8,556	99.88	94	11.19+	0.0	0.000	0.12
West South Central	2,584,974	99.74	19,483	7.53+	29.8	0.221+	0.11
Arkansas	321,739	99.96	2,700	8.38+	32.2	0.262	0.13
Fayetteville, AR	11,803	99.95	87	7.36	48.6	0.332	0.16
Fort Smith, AR-OK	21,413	99.98	157	7.34	38.4	0.282	0.22
Little Rock, AR	50,966	99.99	408	8.01+	28.8	0.237	0.11
Pine Bluff, AR	11,012	99.98	67	6.04	33.0	0.170	0.08
Louisiana	415,968	99.98	3,202	7.69+	27.8	0.200	0.12
Alexandria, LA	13,819	99.96	132	9.52+	25.0	0.209	0.06
Baton Rouge, LA	39,583	99.97	266	6.76	37.1	0.234	0.15
Houma-Thibodaux, LA	13,501	100.00	103	7.73	10.7	0.080	0.08
Lafayette, LA	14,620	99.99	135	9.27	22.3	0.209	0.13
Lake Charles, LA	16,436	99.98	121	7.44	29.4	0.193	0.06
Monroe, LA	14,648	99.99	114	7.73	20.9	0.130	0.13
New Orleans, LA	118,708	99.98	749	6.31	27.2	0.162	0.13
Shreveport, LA	36,822	99.98	193	5.21	10.1-	0.051-	0.05
Oklahoma	378,716	99.02	3,205	8.42+	22.5-	0.186	0.10
Enid, OK	8,215	99.94	62	7.47	17.3	0.114	0.11
Lawton, OK	8,221	99.99	56	6.88	16.8	0.127	0.00
Oklahoma City, OK	88,646	97.45	658	7.38	15.9-	0.110	0.12
Tulsa, OK	71,032	98.13	515	7.24	29.4	0.211	0.09

See notes at end of table.

Table 3. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1996

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Texas	1,468,551	99.81	10,376	7.07+	32.1	0.227	0.11
Abilene, TX	13,100	99.96	79	6.00	12.8	0.074	0.21
Amarillo, TX	19,063	99.97	119	6.26	18.4	0.108	0.05
Austin, TX	47,578	99.95	290	6.09	26.3	0.167	0.10
Beaumont, TX	42,323	99.98	311	7.37	33.7	0.242	0.07
Brazoria, TX	12,486	99.78	83	6.76	14.5	0.087	0.24
Brownsville, TX	20,169	99.86	167	8.34	34.3	0.299	0.09
Bryan, TX	6,955	99.96	47	6.74	42.5	0.280	0.25
Corpus Christi, TX	28,417	95.56	249	8.82+	47.6	0.437	0.33
Dallas, TX	172,118	99.95	1,035	6.03	38.1	0.231	0.12
El Paso, TX	37,292	99.94	241	6.54	20.5	0.139	0.08
Fort Worth, TX	97,947	99.96	581	5.95	36.1	0.210	0.10
Galveston, TX	19,376	99.94	119	6.20	26.8	0.163	0.05
Houston, TX	187,992	99.85	1,157	6.20	31.6	0.195	0.12
Killeen-Temple, TX	17,182	99.97	100	5.82	45.4	0.289	0.05
Laredo, TX	8,421	99.99	94	11.12+	21.8	0.224	0.30
Longview, TX	20,547	99.98	139	6.73	13.5	0.095	0.09
Lubbock, TX	18,957	99.97	153	8.10	34.9	0.270	0.05
McAllen, TX	27,402	99.82	211	7.78	38.0	0.296	0.13
Midland, TX	7,362	99.96	55	7.55	15.4	0.144	0.42
Odessa, TX	9,207	99.99	54	5.96	57.3	0.360	0.23
San Angelo, TX	11,213	99.99	60	5.33	31.9	0.176	0.16
San Antonio, TX	107,989	99.28	691	6.42	28.8	0.187	0.10
Sherman-Denison, TX	14,532	99.99	97	6.65	10.8	0.067	0.13
Texas, TX-AR	15,315	99.99	115	7.46	53.8	0.379	0.12
Tyler, TX	18,223	99.98	120	6.60	29.6	0.167	0.05
Victoria, TX	6,871	99.97	47	6.89	0.0	0.000	0.29
Waco, TX	23,624	99.99	145	6.10	25.6	0.165	0.04
Wichita Falls, TX	14,462	99.97	97	6.67	40.8	0.269	0.06
West	4,539,951	93.08	24,147	5.34-	31.3	0.166-	0.10-
Mountain	1,200,638	94.36	7,815	6.56	28.1	0.181	0.12
Montana	97,248	99.90	736	7.60+	21.6	0.163	0.11
Billings, MT	12,097	99.88	64	5.32	0.0	0.000	0.08
Great Falls, MT	9,076	99.91	59	6.53	18.1	0.111	0.11
Idaho	109,822	99.77	742	6.80	19.9	0.128	0.12
Boise City, ID	18,471	99.90	114	6.21	19.9	0.110	0.16
Wyoming	42,408	99.91	321	7.60	37.2	0.280	0.11
Casper, WY	5,379	99.91	35	6.56	34.5	0.191	0.00
Cheyenne, WY	6,886	99.96	43	6.27	47.5	0.295	0.29

See notes at end of table.

Table 3. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Colorado	266,663	94.73	1,615	6.06	29.0	0.178	0.13
Boulder-Longmont, CO	15,143	97.96	86	5.65	10.1	0.063	0.06
Colorado Springs, CO	24,899	95.03	113	4.58	24.0	0.126	0.04
Denver, CO	119,624	94.10	689	5.76	38.0	0.217	0.13
Fort Collins, CO	15,089	99.71	100	6.62	9.6	0.065	0.06
Greeley, CO	11,610	99.62	84	7.23	11.7	0.084	0.08
Pueblo, CO	15,372	94.43	100	6.52	35.2	0.259	0.23
New Mexico	125,371	92.49	1,001	8.03	16.6	0.136	0.18
Albuquerque, NM	33,783	81.01	171	5.09	6.1	0.030	0.10
Las Cruces, NM	9,375	99.94	57	6.16	16.6	0.110	0.11
Santa Fe, NM	8,454	93.66	68	8.09	0.0	0.000	0.11
Arizona	348,748	91.33	2,041	5.92	34.7	0.200	0.11
Phoenix, AZ	187,381	86.74	1,026	5.52	34.5	0.184	0.10
Tucson, AZ	70,550	96.06	357	5.09	45.1	0.218	0.05
Utah	128,579	99.92	925	7.23	28.9	0.197	0.14
Provo-Orem, UT	16,076	99.93	161	10.08	19.0	0.191	0.25
Salt Lake City, UT	77,243	99.94	491	6.39	27.3	0.158	0.13
Nevada	81,799	86.15	434	5.45	41.0	0.209	0.07
Las Vegas, NV	45,252	82.98	238	5.42	35.8	0.180	0.04
Reno, NV	19,133	89.17	89	4.76	66.1	0.287	0.10
Pacific	3,339,313	92.62	16,332	4.90	32.8	0.159	0.10
Washington	461,706	92.41	2,587	5.62	29.2	0.163	0.10
Bellingham, WA	13,629	99.51	95	6.95	0.0	0.000	0.00
Bremerton, WA	15,439	96.59	95	6.18	41.6	0.261	0.17
Olympia, WA	14,254	90.98	68	4.78	43.2	0.208	0.12
Richland, WA	12,559	99.85	67	5.43	31.3	0.173	0.17
Seattle, WA	159,828	86.57	788	4.93	28.6	0.136	0.08
Spokane, WA	41,237	94.51	225	5.44	35.4	0.188	0.11
Tacoma, WA	50,245	97.24	276	5.52	22.3	0.120	0.09
Vancouver, WA	17,048	80.32	92	5.42	21.8	0.119	0.05
Yakima, WA	22,738	99.74	127	5.58	0.0	0.000	0.04
Oregon	303,778	86.84	1,706	5.62	29.0	0.169	0.08
Eugene, OR	28,947	88.67	142	4.93	35.5	0.173	0.06
Medford, OR	20,326	99.78	100	4.96	0.0	0.000	0.00
Portland, OR	99,155	72.79	454	4.54	42.9	0.209	0.10
Salem, OR	33,249	90.39	208	6.21	27.3	0.170	0.12

See notes at end of table.

Table 3. Diseases of gallbladder: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
California	2,477,248	93.71	11,587	4.68-	34.2	0.158-	0.09-
Anaheim-Santa Ana, CA	167,171	89.39	831	4.96-	37.4	0.183	0.08
Bakersfield, CA	44,969	99.76	301	6.77	32.8	0.210	0.21
Chico, CA	27,102	99.09	130	4.83	53.8	0.225	0.22
Fresno, CA	58,425	99.90	329	5.64	49.2	0.267	0.16
Los Angeles, CA	677,939	91.40	3,054	4.50-	36.8	0.166	0.09-
Merced, CA	13,462	99.86	102	7.66	20.3	0.154	0.15
Modesto, CA	33,619	98.80	200	5.97	42.2	0.241	0.08
Oakland, CA	188,258	99.08	868	4.62-	30.9	0.148	0.07-
Oxnard-Ventura, CA	49,488	93.74	264	5.36	26.5	0.143	0.09
Redding, CA	17,796	99.73	87	4.97	41.4	0.181	0.06
Riverside, CA	203,246	90.92	1,013	5.01-	33.9	0.155	0.07-
Sacramento, CA	120,273	91.81	506	4.25-	28.0	0.120	0.14
Salinas, CA	29,131	99.86	134	4.61-	43.4	0.171	0.09
San Diego, CA	205,402	91.35	911	4.45-	30.2	0.132	0.06-
San Francisco, CA	163,753	89.02	640	3.88-	31.7	0.122	0.09
San Jose, CA	105,258	99.50	434	4.14-	35.8	0.143	0.12
Santa Barbara, CA	38,021	99.70	155	4.06-	30.6	0.126	0.07
Santa Cruz, CA	24,640	99.77	92	3.70-	10.9	0.037-	0.07
Santa Rosa, CA	44,775	99.49	206	4.59-	14.1	0.066-	0.10
Stockton, CA	40,855	91.54	182	4.46-	47.8	0.190	0.08
Vallejo, CA	35,778	98.59	127	3.56-	17.0	0.055-	0.12
Visalia, CA	28,811	99.91	196	6.82	41.0	0.275	0.23
Yuba City, CA	11,835	99.35	58	4.95	55.8	0.263	0.08
Alaska	16,348	99.78	77	4.85	0.0	0.000	0.28
Anchorage, AK	5,625	99.75	28	5.17	0.0	0.000	0.22
Hawaii	80,233	83.64	375	4.75-	38.9	0.190	0.16
Honolulu, HI	57,680	83.31	257	4.54-	26.6	0.127	0.11

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (P<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Hernia of abdominal cavity

In 1986, there were 8.7 million discharges for aged Medicare enrollees. Hernia of the abdominal cavity accounted for 136,167 discharges, or nearly 2 percent of all hospital stays. A large proportion of persons admitted to the hospital for this condition are operated on for repair of inguinal hernia, a procedure included in Volume 2. The rate of hospitalization for hernia of the abdominal cavity was 5.10 discharges per 1,000 enrollees during 1986. The 30-day post-admission mortality rate was 14.7 deaths per 1,000 discharges. The 30-day post-admission mortality rate per 1,000 enrollees was .07, or 1 death for every 14,000 enrollees. The number of deaths from hernia of abdominal cavity per 1,000 aged persons (without regard to hospitalization) in 1986 was .03, or 1 death for every 33,000 persons. Therefore, the number of deaths following admission for hernia is probably an overstatement of the actual number of deaths due to hernia of the abdominal cavity.

Age and sex patterns

Men were nearly three times as likely to be admitted for this diagnosis as were women (8.43 and 2.88 discharges per 1,000, respectively). Although the discharge rate was higher for men than for women, once hospitalized, men had a 37-percent lower

mortality rate than women (12.2 and 19.5 deaths per 1,000 discharges).

The discharge rate was highest for persons aged 75-84 (5.80 discharges per 1,000 enrollees); the youngest and oldest age groups had nearly identical discharge rates (4.80 and 4.73 per 1,000 enrollees, respectively). The 30-day post-admission mortality rate per 1,000 discharges increased markedly with age. Compared with persons aged 65-74 years (6.9 deaths per 1,000), persons aged 75-84 years were almost three times more likely to die (18.4 deaths per 1,000) and persons aged 85 years or over were seven times more likely to die (50.8 deaths per 1,000) following an admission for this diagnosis.

Patterns by race

The discharge rate for white enrollees was 5.27 discharges per 1,000 enrollees. The discharge rate among black persons was about one-third lower, 3.56 discharges per 1,000 enrollees. This pattern was consistent across all age and sex groups.

Overall, the 30-day post-admission mortality rate per 1,000 discharges was 55 percent higher among black persons (22.3) than among white persons (14.4). However, differences by race decreased as age increased. At 65-74 years, black persons had mortality rates more than twice as great as rates for white persons (14.3 versus 6.5 per 1,000 discharges); at 75-84 years, black persons had mortality rates 38 percent higher than rates for white persons

(25.2 versus 18.2); and at 85 years or over, there was essentially no difference in the 30-day post-admission mortality rate per 1,000 discharges by race (54.5 versus 51.0).

Variations by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region, division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan statistical area (MSA) level are shown in Table 3.

Discharge rates

The East South Central and West South Central Divisions had the highest discharge rates for hernia of the abdominal cavity, 6.07 and 5.94 discharges per 1,000 enrollees, respectively. The Pacific Division had the lowest rate, 2.76 discharges per 1,000 enrollees. Among the States, Wyoming had the highest discharge rate, 7.37 discharges per 1,000 enrollees, and Hawaii had the lowest rate, 1.79 discharges (Table 2).

Post-admission death rates

Thirty-day post-admission mortality rates per 1,000 discharges were highest in the Pacific and Middle Atlantic Divisions, 16.6 and 16.2 deaths per 1,000 discharges. The lowest rate was in the New England Division, 12.3 deaths per 1,000 discharges.

NOTE: Hernia of abdominal cavity is ICD-9-CM codes 550-553.

However, in none of the regions was the mortality rate statistically significantly above the U.S. rate. The only States with mortality rates significantly below the U.S. rate were Connecticut, Kentucky, and Arizona.

Population death rates

As noted, few aged persons have hernia of the abdominal cavity as the underlying cause of death. The low rate amounted to about 800 deaths nationwide in 1986.

Because of the infrequency of this event, it is not useful to examine regional variations in this death rate.

Correlations between rates

Discharges per 1,000 enrollees and 30-day post-admission deaths per 1,000 discharges had no significant correlations. Discharge rates and population death rates had no significant correlations either.

Urban-rural patterns

In the Nation as a whole, the discharge rate for hernia of the abdominal cavity for persons in rural counties was 14 percent greater than the rate for persons in urban areas (5.59 and 4.91 per 1,000, respectively). Thirty-day post-admission mortality was slightly lower in rural areas (14.0 deaths per 1,000 discharges) than in urban areas (14.9 deaths per 1,000 discharges), although this was not statistically significant.

Table 1. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

Age, sex, and race	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
All persons (1)	26,698,924	96.70	136,167	5.10	14.7	0.07	0.03
65-74 years	16,162,594	96.33	77,658	4.80	6.9	0.03	0.01
75-84 years	8,020,447	96.96	46,591	5.80	18.4	0.11	0.04
85 years or over	2,515,883	98.32	11,918	4.73	50.8	0.24	0.14
Men	10,650,991	96.01	89,810	8.43	12.2	0.10	0.03
65-74 years	7,056,445	95.90	53,405	7.56	6.0	0.05	0.01
75-84 years	2,912,366	96.02	30,011	10.30	16.5	0.17	0.04
85 years or over	682,180	97.22	6,394	9.37	43.2	0.40	0.18
Women	16,047,933	97.16	46,357	2.88	19.5	0.06	0.03
65-74 years	9,106,149	96.66	24,253	2.66	8.8	0.02	0.01
75-84 years	5,108,081	97.51	16,580	3.24	21.8	0.07	0.03
85 years or over	1,833,703	98.74	5,524	3.01	59.6	0.18	0.13
White	23,574,066	96.62	124,244	5.27	14.4	0.08	0.03
65-74 years	14,207,064	96.23	70,747	4.97	6.5	0.03	0.01
75-84 years	7,134,499	96.88	42,575	5.96	18.2	0.11	0.04
85 years or over	2,232,503	98.26	10,922	4.89	51.0	0.25	0.15
Men	9,391,016	95.94	82,159	8.74	12.0	0.11	0.03
65-74 years	6,216,472	95.83	48,899	7.86	5.8	0.05	0.01
75-84 years	2,573,989	95.94	27,410	10.64	16.5	0.18	0.05
85 years or over	600,555	97.12	5,850	9.74	43.4	0.42	0.19
Women	14,183,050	97.07	42,085	2.96	19.1	0.06	0.03
65-74 years	7,990,592	96.55	21,848	2.73	8.1	0.02	0.01
75-84 years	4,560,510	97.42	15,165	3.32	21.3	0.07	0.03
85 years or over	1,631,948	98.69	5,072	3.10	59.7	0.19	0.13
Black	1,991,943	97.86	7,094	3.56	22.3	0.08	0.03
65-74 years	1,213,014	97.54	3,834	3.16	14.3	0.05	0.01
75-84 years	583,429	98.11	2,544	4.36	25.2	0.11	0.05
85 years or over	195,500	99.11	716	3.66	54.5	0.20	0.06
Men	792,788	97.49	4,547	5.73	17.6	0.10	0.03
65-74 years	519,305	97.28	2,478	4.77	10.9	0.05	0.02
75-84 years	215,401	97.67	1,664	7.72	21.0	0.16	0.05
85 years or over	58,082	98.74	405	6.97	44.4	0.31	0.05
Women	1,199,155	98.10	2,547	2.12	30.6	0.07	0.03
65-74 years	693,709	97.74	1,356	1.95	20.6	0.04	0.01
75-84 years	368,028	98.37	880	2.39	33.0	0.08	0.05
85 years or over	137,418	99.26	311	2.26	67.5	0.15	0.06

(1) Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
United States	26,698,924	96.70	136,167	5.10	14.7	0.074	0.04
Metropolitan	19,363,284	95.80	94,287	4.91-	14.9	0.073	0.03-
Rural	7,335,640	99.16	41,880	5.59+	14.0	0.076	0.04
Northeast	6,276,897	98.04	32,538	5.25+	15.2	0.079	0.03-
Metropolitan	5,564,648	97.84	28,656	5.23	15.7	0.081	0.03-
Rural	712,249	99.69	3,882	5.40	11.7	0.063	0.03
New England	1,569,313	96.20	8,735	5.66+	12.3	0.066	0.03
Metropolitan	1,342,886	95.66	7,440	5.67+	13.1	0.070	0.03
Rural	226,427	99.53	1,295	5.65	8.0-	0.043	0.02
Maine	153,209	99.88	961	6.25+	11.0	0.063	0.04
Metropolitan	82,345	99.89	509	6.24+	12.4	0.070	0.04
Rural	70,864	99.87	452	6.26+	9.5	0.054	0.03
New Hampshire	114,752	98.98	637	5.57	14.2	0.078	0.02
Metropolitan	74,135	98.55	408	5.58	19.4	0.106	0.01-
Rural	40,617	99.77	229	5.55	4.5	0.024	0.05
Vermont	62,781	99.82	383	6.08	7.6	0.046	0.03
Metropolitan	10,422	99.91	69	6.75	0.0	0.000	0.00
Rural	52,359	99.80	314	5.95	9.5	0.055	0.04
Massachusetts	709,478	93.75	3,796	5.51+	14.5	0.077	0.04
Metropolitan	659,025	93.40	3,558	5.58+	15.2	0.081	0.05
Rural	50,453	98.58	238	4.66	4.4	0.019-	0.00
Rhode Island	132,332	97.59	687	5.31	16.2	0.082	0.02
Metropolitan	132,332	97.59	687	5.31	16.2	0.082	0.02
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Connecticut	396,761	97.56	2,271	5.78+	7.9-	0.042-	0.02-
Metropolitan	384,627	97.50	2,209	5.80+	7.7-	0.041-	0.02-
Rural	12,134	99.66	62	5.15	17.2	0.080	0.00
Middle Atlantic	4,707,584	98.68	23,803	5.11	16.2	0.084	0.03-
Metropolitan	4,221,762	98.55	21,216	5.09	16.6	0.086	0.03-
Rural	485,822	99.76	2,587	5.28	13.4	0.074	0.03
New York	2,143,249	98.98	11,749	5.54+	14.5	0.079	0.04
Metropolitan	1,922,371	98.89	10,452	5.51+	14.7	0.079	0.04
Rural	220,878	99.75	1,297	5.82+	12.8	0.074	0.03

See notes at end of table.

Table 2. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Iowa	404,057	99.37	2,447	6.03+	12.6	0.070	0.04
	136,818	98.24	784	5.82	14.3	0.077	0.03
	267,239	99.96	1,663	6.13+	11.8	0.067	0.04
Missouri	655,875	98.17	3,429	5.24	16.2	0.085	0.03
	383,255	96.99	2,056	5.48	13.9	0.077	0.04
	272,620	99.88	1,373	4.91	19.7	0.096	0.02
North Dakota	85,433	98.28	582	6.53+	10.2	0.064	0.02
	22,964	98.14	152	6.57	24.9	0.162	0.04
	62,469	98.34	430	6.51+	4.7-	0.029-	0.01
South Dakota	96,216	99.59	674	6.81+	12.4	0.084	0.05
	20,427	99.92	137	6.69	6.4	0.046	0.00
	75,789	99.51	537	6.84+	14.1	0.093	0.07
Nebraska	209,910	98.52	1,368	6.44+	18.2	0.111	0.06
	70,076	95.86	443	6.47+	8.6	0.054	0.04
	139,834	99.91	925	6.43+	22.8	0.138	0.06
Kansas	307,796	95.82	1,841	5.97+	12.0	0.068	0.03
	123,748	93.24	660	5.42	11.3	0.062	0.03
	184,048	97.63	1,181	6.33+	12.4	0.072	0.03
South	8,980,101	97.94	49,718	5.53+	13.6	0.073	0.03-
	5,757,016	96.87	30,608	5.34+	13.7	0.071	0.03-
	3,223,085	99.91	19,110	5.85+	13.5	0.076	0.03-
South Atlantic	4,668,855	96.31	23,768	5.10	13.5	0.067	0.04
	3,313,125	94.94	16,411	4.97	14.1	0.068	0.04
	1,355,730	99.84	7,357	5.40+	12.0	0.061	0.03
Delaware	70,251	99.94	344	4.92	14.2	0.074	0.07
	44,355	99.95	200	4.58	10.0	0.047	0.09
	25,896	99.94	144	5.51	19.7	0.121	0.04
Maryland	436,606	99.49	2,082	4.82	14.4	0.070	0.06
	395,091	99.44	1,923	4.94	14.0	0.071	0.06
	41,515	99.95	159	3.78-	20.0	0.072	0.05
District of Col.	66,196	99.75	186	2.90-	8.9	0.028-	0.05
	66,196	99.75	186	2.90-	8.9	0.028-	0.05
	0	0.00	0	0.00	0.0	0.000	0.00

See notes at end of table.

Table 2. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Virginia	566,135	99.91	3,014	5.38	10.5	0.054	0.02-
	355,193	99.87	1,820	5.24	12.0	0.062	0.02-
	210,942	99.97	1,194	5.62	8.1	0.043	0.02
West Virginia	244,259	98.98	1,489	6.09+	10.0	0.057	0.03
	90,704	97.39	563	6.28+	9.1	0.056	0.06
	153,555	99.95	926	5.98+	10.6	0.058	0.02
North Carolina	689,138	99.93	3,072	4.54-	13.4	0.056	0.04
	346,905	99.89	1,540	4.55-	18.2	0.076	0.05
	342,233	99.96	1,532	4.52-	8.6	0.037-	0.03
South Carolina	329,020	99.44	1,946	6.03+	12.3	0.072	0.04
	186,873	99.05	1,100	6.03+	13.5	0.081	0.06
	142,147	99.95	846	6.03+	10.5	0.060	0.02
Georgia	561,716	99.71	3,394	6.18+	15.3	0.087	0.06
	313,319	99.54	1,817	5.99+	15.4	0.084	0.05
	248,397	99.93	1,577	6.42+	15.2	0.091	0.08
Florida	1,705,534	90.97	8,241	4.72-	14.7	0.069	0.02-
	1,514,489	90.04	7,262	4.71-	14.4	0.067	0.02-
	191,045	99.17	979	4.86	17.2	0.083	0.01-
East South Central	1,726,272	99.80	10,472	6.07+	13.5	0.079	0.04
	873,594	99.64	5,057	5.87+	12.0	0.068	0.04
	852,678	99.97	5,415	6.28+	14.9	0.090	0.04
Kentucky	422,657	99.70	2,292	5.41	9.3-	0.049-	0.03
	183,264	99.37	1,010	5.63	8.9	0.049	0.02
	239,393	99.96	1,282	5.26	9.6	0.049	0.05
Tennessee	550,327	99.65	3,405	6.21+	15.9	0.095	0.04
	342,007	99.46	2,010	5.96+	17.0	0.097	0.04
	208,320	99.96	1,395	6.61+	14.3	0.091	0.04
Alabama	463,131	99.97	2,825	6.14+	12.4	0.072	0.04
	281,960	99.97	1,621	5.82+	6.5-	0.036-	0.04
	181,171	99.97	1,204	6.61+	20.3	0.124	0.05
Mississippi	290,157	99.98	1,950	6.67+	15.9	0.105	0.04
	66,363	99.96	416	6.27	17.0	0.107	0.07
	223,794	99.98	1,534	6.79+	15.7	0.104	0.03

See notes at end of table.

Table 2. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
West South Central							
Metropolitan	2,584,974	99.74	15,478	5.94+	13.9	0.079	0.03-
Rural	1,570,297	99.59	9,140	5.84+	13.8	0.077	0.02-
	1,014,677	99.97	6,338	6.09+	14.0	0.081	0.03
Arkansas							
Metropolitan	321,739	99.96	1,943	5.92+	9.2	0.051	0.02-
Rural	100,966	99.98	562	5.59	7.7	0.039	0.01-
	220,773	99.95	1,381	6.06+	9.9	0.057	0.02
Louisiana							
Metropolitan	415,968	99.98	2,700	6.48+	13.5	0.082	0.03
Rural	268,137	99.98	1,632	6.15+	10.3	0.059	0.01-
	147,831	99.99	1,068	7.06+	18.1	0.119	0.05
Oklahoma							
Metropolitan	378,716	99.02	2,338	6.14+	14.2	0.081	0.03
Rural	180,038	98.00	1,102	6.19+	15.3	0.087	0.03
	198,678	99.96	1,236	6.09+	13.4	0.075	0.03
Texas							
Metropolitan	1,468,551	99.81	8,497	5.74+	15.0	0.083	0.03
Rural	1,021,156	99.73	5,844	5.72+	15.1	0.084	0.03
	447,395	99.97	2,653	5.77+	14.8	0.083	0.02-
West							
Metropolitan	4,539,951	93.08	15,856	3.43-	15.3	0.056-	0.04
Rural	3,642,859	91.96	11,926	3.25-	15.5	0.055-	0.04
	897,092	97.88	3,930	4.16-	14.6	0.063	0.04
Mountain							
Metropolitan	1,200,638	94.36	6,522	5.29	13.3	0.071	0.03
Rural	720,893	92.10	3,759	5.17	13.5	0.071	0.03
	479,745	97.98	2,763	5.48	12.9	0.071	0.03
Montana							
Metropolitan	97,248	99.90	674	6.69+	16.7	0.112	0.05
Rural	21,173	99.90	163	7.57+	19.1	0.144	0.00
	76,075	99.91	511	6.45+	16.0	0.104	0.06
Idaho							
Metropolitan	109,822	99.77	501	4.37	16.0	0.073	0.07
Rural	18,471	99.90	77	4.13	11.5	0.055	0.11
	91,351	99.74	424	4.42	16.9	0.076	0.07
Wyoming							
Metropolitan	42,408	99.91	321	7.37+	12.9	0.093	0.00
Rural	12,265	99.93	91	7.39	10.1	0.083	0.00
	30,143	99.89	230	7.36+	14.3	0.097	0.00
Colorado							
Metropolitan	266,663	94.73	1,093	4.07-	14.9	0.062	0.03
Rural	201,737	95.23	807	4.02-	18.5	0.079	0.03
	64,926	93.22	286	4.22	3.7-	0.014-	0.01

See notes at end of table.

Table 2. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
New Mexico	125,371	92.49	668	5.17	13.1	0.071	0.03
	51,612	85.86	226	4.37	17.1	0.079	0.05
	73,759	97.76	442	5.70	11.0	0.066	0.01-
Arizona	348,748	91.33	2,057	5.74+	8.3-	0.048-	0.02-
	257,931	89.11	1,534	5.87+	7.6-	0.044	0.02
	90,817	98.31	523	5.40	10.6	0.061	0.04
Utah	128,579	99.92	903	6.83+	15.7	0.103	0.04
	93,319	99.94	611	6.43+	14.1	0.087	0.04
	35,260	99.88	292	7.86+	19.3	0.141	0.03
Nevada	81,799	86.15	305	3.59-	21.1	0.085	0.01-
	64,385	84.73	250	3.76-	25.2	0.108	0.01-
	17,414	91.83	55	2.99-	0.0	0.000	0.00
Pacific	3,339,313	92.62	9,334	2.76-	16.6	0.052-	0.04
	2,921,966	91.93	8,167	2.77-	16.3	0.052-	0.04
	417,347	97.77	1,167	2.65-	18.4	0.053	0.05
Washington	461,706	92.41	997	2.12-	19.9	0.051	0.03
	346,977	90.86	721	2.06-	18.7	0.048-	0.02-
	114,729	97.42	276	2.30-	23.3	0.061	0.03
Oregon	303,778	86.84	914	2.95-	17.8	0.061	0.05
	181,677	80.38	534	2.94-	21.4	0.074	0.04
	122,101	98.65	380	2.96-	12.1	0.041	0.06
California	2,477,248	93.71	7,228	2.89-	15.8	0.051-	0.04
	2,330,007	93.36	6,789	2.90-	15.7	0.051-	0.04
	147,241	99.57	439	2.83-	16.2	0.049	0.06
Alaska	16,348	99.78	37	2.13-	37.7	0.070	0.14
	5,625	99.75	7	1.22-	0.0	0.000	0.23
	10,723	99.80	30	2.57-	48.0	0.100	0.11
Hawaii	80,233	83.64	158	1.79-	21.8	0.038	0.03
	57,680	83.31	116	1.86-	9.6	0.018-	0.03
	22,553	84.47	42	1.63-	59.9	0.085	0.04

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).
 SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 2. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Jersey	916,155	97.84	4,365	4.81-	20.1	0.100+	0.03
Metropolitan	916,155	97.84	4,365	4.81-	20.1	0.100+	0.03
Rural	0	0.00	0	0.00	0.0	0.000	0.00
Pennsylvania	1,648,180	98.75	7,689	4.72-	16.7	0.083	0.02-
Metropolitan	1,383,236	98.56	6,399	4.70-	17.3	0.085	0.02-
Rural	264,944	99.78	1,290	4.84	14.0	0.073	0.03
North Central	6,901,975	96.39	38,055	5.52+	15.2	0.082+	0.04
Metropolitan	4,398,761	95.22	23,097	5.33+	15.3	0.080	0.04
Rural	2,503,214	98.51	14,958	5.85+	15.1	0.085	0.04
East North Central	4,745,430	97.76	25,652	5.43+	15.7	0.084	0.04
Metropolitan	3,453,558	97.13	18,002	5.28+	16.0	0.083	0.04
Rural	1,291,872	99.47	7,650	5.82+	15.0	0.086	0.04
Ohio	1,263,869	99.46	5,847	4.67-	17.6	0.083	0.03
Metropolitan	987,528	99.60	4,491	4.61-	18.0	0.084	0.03
Rural	276,341	98.95	1,356	4.86	16.5	0.082	0.04
Indiana	623,062	97.86	3,659	5.92+	14.1	0.078	0.05
Metropolitan	399,457	97.01	2,346	5.95+	15.6	0.068	0.05
Rural	223,605	99.41	1,313	5.85+	11.3	0.061	0.04
Illinois	1,265,011	95.90	7,146	5.71+	14.8	0.084	0.05
Metropolitan	952,934	94.73	5,206	5.55+	15.6	0.086	0.05
Rural	312,077	99.68	1,940	6.18+	12.7	0.079	0.05
Michigan	982,444	96.86	5,081	5.18	19.4	0.099	0.03
Metropolitan	744,347	96.06	3,706	5.03	18.2	0.090	0.04
Rural	238,097	99.44	1,375	5.60	22.9	0.127	0.03
Wisconsin	611,044	99.60	3,919	6.33+	11.3	0.065	0.04
Metropolitan	369,292	99.43	2,253	6.13+	9.9	0.054	0.02-
Rural	241,752	99.86	1,666	6.63+	13.1	0.081	0.06
West North Central	2,156,545	93.50	12,403	5.73+	14.1	0.078	0.04
Metropolitan	945,203	88.82	5,095	5.52+	12.6	0.067	0.04
Rural	1,211,342	97.51	7,308	5.88+	15.2	0.085	0.04
Minnesota	397,258	77.30	2,062	5.20	13.2	0.063	0.04
Metropolitan	187,915	67.07	863	4.81	10.1	0.042	0.04
Rural	209,343	89.55	1,199	5.53	15.5	0.080	0.04

See notes at end of table.

Table 3. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths			Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees		
United States	26,698,924	96.70	136,167	5.10	14.7	0.074	0.04	0.04
Northeast	6,276,897	98.04	32,538	5.25+	15.2	0.079	0.03-	0.03-
New England	1,569,313	96.20	8,735	5.66+	12.3	0.066	0.03	0.03
Maine	153,209	99.88	961	6.25+	11.0	0.063	0.04	0.04
Bangor, ME	16,035	99.87	94	5.86	0.0	0.000	0.06	0.06
Lewiston-Auburn, ME	13,464	99.93	93	7.05	21.0	0.143	0.07	0.07
Portland, ME	52,846	99.89	322	6.15	13.5	0.073	0.03	0.03
New Hampshire	114,752	98.98	637	5.57	14.2	0.078	0.02	0.02
Manchester, NH	44,397	97.91	226	5.20	13.1	0.066	0.02	0.02
Portsmouth, NH	29,738	99.52	182	6.14	27.3	0.170	0.00	0.00
Vermont	62,781	99.82	383	6.08	7.6	0.046	0.03	0.03
Burlington, VT	10,422	99.91	69	6.75	0.0	0.000	0.00	0.00
Massachusetts	709,478	93.75	3,796	5.51+	14.5	0.077	0.04	0.04
Boston, MA	429,794	95.67	2,299	5.54	14.1	0.075	0.05	0.05
New Bedford, MA	65,540	98.67	355	5.54	13.9	0.077	0.00	0.00
Pittsfield, MA	20,281	91.00	143	7.21	19.9	0.142	0.04	0.04
Springfield, MA	72,225	92.57	392	5.58	19.9	0.108	0.06	0.06
Worcester, MA	71,185	79.42	369	5.38	16.4	0.079	0.06	0.06
Rhode Island	132,332	97.59	687	5.31	16.2	0.082	0.02	0.02
Providence, RI	132,332	97.59	687	5.31	16.2	0.082	0.02	0.02
Connecticut	396,761	97.56	2,271	5.78+	7.9-	0.042-	0.02-	0.02-
Bridgeport, CT	96,911	96.63	573	5.98	7.2	0.041	0.03	0.03
Hartford, CT	157,139	99.16	906	5.79	8.4	0.044	0.02	0.02
New Haven, CT	102,964	95.31	544	5.37	7.6	0.038	0.02	0.02
New London, CT	27,613	99.70	186	6.75	6.1	0.037	0.00	0.00

See notes at end of table.

Table 3. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	per 1,000 discharges	Per 1,000 non-HMD enrollees	
Middle Atlantic	4,707,584	98.68	23,803	5.11	16.2	0.084	0.03-
New York	2,143,249	98.98	11,749	5.54+	14.5	0.079	0.04
Albany, NY	115,122	98.78	665	5.87	17.3	0.102	0.03
Binghamton, NY	35,576	99.96	123	3.50-	24.9	0.083	0.08
Buffalo, NY	134,451	98.66	678	5.15	24.2	0.130	0.07
Elmira, NY	13,699	99.94	77	5.68	0.0	0.000	0.00
Glens Falls, NY	15,222	99.63	97	6.37	0.0	0.000	0.06
Nassau-Suffolk, NY	297,143	99.88	1,693	5.71+	13.5	0.076	0.03
New York, NY	997,473	99.58	5,452	5.56+	14.7	0.081	0.04
Niagara Falls, NY	30,841	99.69	184	6.00	11.0	0.068	0.07
Orange County, NY	30,488	99.89	166	5.46	20.6	0.097	0.00
Poughkeepsie, NY	27,864	98.47	162	5.84	0.0	0.000	0.06
Rochester, NY	102,542	88.80	493	4.90	3.8-	0.018-	0.02
Syracuse, NY	75,217	99.92	392	5.27	19.3	0.094	0.05
Utica-Rome, NY	46,733	99.90	270	5.85	16.2	0.085	0.04
New Jersey	916,155	97.84	4,365	4.81-	20.1	0.100+	0.03
Atlantic City, NJ	46,406	97.93	262	5.67	14.4	0.084	0.06
Bergen-Passaic, NJ	171,246	99.45	890	5.23	20.7	0.112	0.05
Jersey City, NJ	64,069	99.25	323	5.17	15.6	0.080	0.03
Middlesex, NJ	91,009	94.70	418	4.64	19.4	0.095	0.01-
Monmouth-Ocean, NJ	154,643	99.57	659	4.24-	14.8	0.065	0.01-
Newark, NJ	211,511	99.40	930	4.47-	27.4	0.127	0.05
Trenton, NJ	38,499	97.14	149	3.95	32.7	0.133	0.00
Vineland, NJ	16,382	96.17	77	4.72	0.0	0.000	0.00
Pennsylvania	1,648,180	98.75	7,689	4.72-	16.7	0.083	0.02-
Allentown, PA-NJ	94,668	99.09	443	4.71	35.9	0.187	0.02
Altoona, PA	20,692	99.99	102	4.99	46.4	0.239	0.00
Beaver County, PA	27,562	99.95	173	6.27	27.3	0.159	0.08
Erie, PA	35,244	99.92	111	3.17-	9.4	0.030	0.03
Harrisburg, PA	72,929	99.95	282	3.92-	18.8	0.084	0.00
Johnstown, PA	40,260	99.97	200	4.98	24.4	0.132	0.00
Lancaster, PA	48,045	99.93	220	4.57	16.3	0.080	0.06
Philadelphia, PA-NJ	569,054	95.81	2,560	4.61-	15.4	0.074	0.03
Pittsburgh, PA	323,494	99.06	1,667	5.22	13.2	0.071	0.01-
Reading, PA	48,476	99.88	241	4.95	16.9	0.082	0.02
Scranton, PA	122,888	99.95	582	4.87	13.0	0.069	0.03
Sharon, PA	19,009	99.97	111	5.81	9.3	0.054	0.10
State College, PA	10,032	99.97	39	3.86	44.9	0.203	0.00
Williamsport, PA	16,877	99.98	85	5.06	0.0	0.000	0.06
York, PA	48,541	99.96	201	4.10	29.5	0.124	0.02

See notes at end of table.

Table 3. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	Total deaths per 1,000 persons
North Central	6,901,975	96.39	38,055	5.52+	15.2	0.082+	0.04
East North Central	4,745,430	97.76	25,652	5.43+	15.7	0.084	0.04
Ohio	1,263,869	99.46	5,847	4.67-	17.6	0.083	0.03
Akron, OH	75,615	99.90	294	3.93-	15.7	0.067	0.01-
Canton, OH	51,895	99.97	184	3.55-	5.5	0.019-	0.06
Cincinnati, OH-KY-IN	159,407	99.96	841	5.39	17.4	0.093	0.04
Cleveland, OH	242,585	99.71	986	4.13-	17.5	0.073	0.02
Columbus, OH	121,377	99.73	600	5.05	27.2	0.132	0.02
Dayton, OH	103,547	99.95	520	5.07	19.4	0.086	0.07
Hamilton, OH	26,009	99.95	116	4.51	15.5	0.077	0.00
Lima, OH	19,579	99.97	87	4.47	0.0	0.000	0.00
Lorain-Elyria, OH	27,340	99.85	109	3.97	18.4	0.078	0.11
Mansfield, OH	15,230	99.96	73	4.82	13.5	0.068	0.07
Steubenville, OH-WV	21,934	98.57	134	6.12	15.4	0.098	0.00
Toledo, OH	70,660	99.95	419	6.02	22.9	0.142	0.01
Youngstown, OH	69,319	99.95	246	3.56-	7.4	0.030	0.03
Indiana	623,062	97.86	3,659	5.92+	14.1	0.078	0.05
Anderson, IN	17,198	99.83	137	8.08+	7.3	0.060	0.00
Bloomington, IN	7,913	99.87	61	7.75	17.8	0.125	0.12
Elkhart-Goshen, IN	15,647	99.92	76	4.89	0.0	0.000	0.00
Evansville, IN-KY	34,434	95.72	186	5.49	32.2	0.171	0.03
Fort Wayne, IN	37,565	97.77	195	5.25	5.7	0.026	0.05
Gary-Hammond, IN	61,160	97.01	370	6.03	0.0	0.000	0.07
Indianapolis, IN	118,407	93.81	673	5.81	24.3	0.135	0.08
Kokomo, IN	10,842	99.94	71	6.65	13.8	0.094	0.18
Lafayette, IN	11,228	99.92	60	5.40	17.1	0.086	0.00
Muncie, IN	13,759	99.91	78	5.81	59.2	0.298	0.14
South Bend, IN	33,170	99.93	211	6.41	9.5	0.060	0.03
Terre Haute, IN	19,585	99.89	107	5.65	10.8	0.050	0.00
Illinois	1,265,011	95.90	7,146	5.71+	14.8	0.084	0.05
Aurora-Elgin, IL	30,946	98.68	173	5.69	6.1	0.031	0.06
Bloomington, IL	12,672	99.94	92	7.37	21.4	0.148	0.07
Champaign, IL	13,391	99.91	71	5.39	13.5	0.073	0.00
Chicago, IL	608,135	92.94	3,184	5.34	15.5	0.080	0.03
Decatur, IL	15,992	99.97	117	7.44	20.1	0.182	0.06
Joliet, IL	28,047	97.18	142	5.11	27.3	0.146	0.16
Kankakee, IL	12,020	99.94	60	4.96	0.0	0.000	0.00
Lake County, IL	36,099	96.52	198	5.53	24.8	0.143	0.08
Peoria, IL	43,549	99.93	278	6.41	11.1	0.067	0.02
Rockford, IL	28,351	88.93	136	4.81	0.0	0.000	0.12
Springfield, IL	24,799	99.96	148	6.18	19.2	0.118	0.08

See notes at end of table.

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Michigan	982,444	96.86	5,081	5.18	19.4	0.099	0.03
Ann Arbor, MI	17,760	95.12	80	4.60	0.0	0.000	0.00
Battle Creek, MI	16,831	99.89	96	5.74	12.7	0.059	0.05
Benton Harbor, MI	21,618	99.88	122	5.61	53.5	0.281	0.05
Detroit, MI	448,826	96.43	2,190	4.94	19.6	0.096	0.04
Flint, MI	43,084	91.01	221	5.24	14.6	0.070	0.00
Grand Rapids, MI	64,091	95.42	321	5.04	12.3	0.060	0.04
Jackson, MI	17,046	99.82	84	4.95	34.4	0.178	0.12
Kalamazoo, MI	21,512	99.85	103	4.89	19.0	0.092	0.09
Lansing, MI	32,460	90.23	153	4.81	6.1	0.029	0.00
Muskegon, MI	18,957	98.06	91	4.80	12.1	0.054	0.00
Saginaw, MI	42,162	96.18	245	5.84	12.2	0.074	0.05
Wisconsin	611,044	99.60	3,919	6.33+	11.3	0.065	0.04
Appleton, WI	34,483	99.96	231	6.64	14.8	0.083	0.05
Eau Claire, WI	16,955	99.94	101	5.83	8.8	0.055	0.00
Green Bay, WI	19,185	99.97	107	5.60	0.0	0.000	0.05
Janesville, WI	16,529	99.85	126	7.63	9.6	0.058	0.00
Kenosha, WI	14,291	99.91	82	5.72	12.9	0.069	0.00
LaCrosse, WI	11,858	99.91	71	6.07	14.9	0.079	0.00
Madison, WI	30,776	99.74	181	5.92	6.0	0.031	0.03
Milwaukee, WI	166,813	99.21	1,002	6.09+	9.1	0.052	0.02
Racine, WI	20,503	99.90	111	5.43	41.2	0.192	0.09
Sheboygan, WI	14,461	99.98	88	6.06	0.0	0.000	0.00
Wausau, WI	12,945	99.95	76	5.75	0.0	0.000	0.00
West North Central	2,156,545	93.50	12,403	5.73+	14.1	0.078	0.04
Minnesota	397,258	77.30	2,062	5.20	13.2	0.063	0.04
Duluth, MN-WI	29,977	76.74	143	4.88	7.2	0.032	0.05
Minneapolis, MN-WI	141,769	64.45	671	5.00	10.1	0.044	0.04
Rochester, MN	9,393	99.67	46	5.02	0.0	0.000	0.00
St. Cloud, MN	12,248	70.92	52	4.29	0.0	0.000	0.05
Iowa	404,057	99.37	2,447	6.03+	12.6	0.070	0.04
Cedar Rapids, IA	19,323	99.94	115	6.01	32.6	0.199	0.05
Davenport, IA-IL	44,646	99.94	286	6.45	10.8	0.066	0.06
Des Moines, IA	40,067	94.50	228	5.87	22.4	0.119	0.04
Dubuque, IA	11,460	99.95	67	6.02	18.4	0.084	0.00
Iowa City, IA	6,240	99.90	36	5.84	0.0	0.000	0.00
Sioux City, IA-NE	15,951	99.96	89	5.61	0.0	0.000	0.00
Waterloo, IA	19,521	99.96	107	5.47	0.0	0.000	0.05

See notes at end of table.

Table 3. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Missouri	655,875	98.17	3,429	5.24	16.2	0.085	0.03
Columbia, MO	8,560	99.98	50	5.88	22.5	0.111	0.11
Joplin, MO	19,275	99.95	96	5.03	18.1	0.103	0.00
Kansas City, MO-KS	154,919	95.72	889	5.85	10.0	0.056	0.04
St. Joseph, MO	13,630	99.97	74	5.52	42.3	0.277	0.13
St. Louis, MO-IL	283,167	97.43	1,563	5.63	14.3	0.082	0.03
Springfield, MO	27,676	99.94	164	5.97	23.2	0.140	0.13
North Dakota	85,433	98.28	582	6.53+	10.2	0.064	0.02
Bismarck, ND	8,160	95.13	57	6.95	18.3	0.118	0.00
Fargo, ND-MN	14,138	96.57	85	5.96	34.0	0.190	0.06
Grand Forks, ND	5,687	99.95	38	6.60	20.3	0.160	0.00
South Dakota	96,216	99.59	674	6.81+	12.4	0.084	0.05
Rapid City, SD	7,152	99.89	53	7.29	0.0	0.000	0.00
Sioux Falls, SD	13,275	99.93	84	6.36	9.5	0.070	0.00
Nebraska	209,910	98.52	1,368	6.44+	18.2	0.111	0.06
Lincoln, NE	20,994	98.50	141	6.84	14.0	0.088	0.04
Omaha, NE-IA	57,609	95.39	364	6.45+	5.4	0.033	0.03
Kansas	307,796	95.82	1,841	5.97+	12.0	0.068	0.03
Lawrence, KS	4,965	87.78	38	7.73	21.5	0.185	0.00
Topeka, KS	18,983	97.26	74	3.96	12.0	0.048	0.00
Wichita, KS	45,844	88.57	169	3.77-	9.9	0.041	0.04
South	8,980,101	97.94	49,718	5.53+	13.6	0.073	0.03-
South Atlantic	4,668,855	96.31	23,768	5.10	13.5	0.067	0.04
Delaware	70,251	99.94	344	4.92	14.2	0.074	0.07
Wilmington, DE-NJ-MD	58,114	99.65	269	4.67	7.7	0.036	0.10
Maryland	436,606	99.49	2,082	4.82	14.4	0.070	0.06
Baltimore, MD	244,878	99.90	1,334	5.53	12.6	0.072	0.06
Cumberland, MD-WV	17,051	99.95	63	3.74	0.0	0.000	0.00
Hagerstown, MD	14,522	99.95	50	3.47	58.1	0.209	0.13
District of Col.	66,196	99.75	186	2.90-	8.9	0.028-	0.05
Washington, DC-MD-VA	261,121	99.05	1,059	4.15-	8.7	0.035-	0.05

See notes at end of table.

Table 3. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Virginia	566,135	99.91	3,014	5.38	10.5	0.054	0.02-
Charlottesville, VA	12,020	99.92	71	5.91	46.2	0.247	0.08
Danville, VA	15,532	99.99	83	5.41	13.6	0.067	0.00
Lynchburg, VA	18,110	99.99	69	3.88	0.0	0.000	0.00
Norfolk, VA	102,601	99.96	541	5.39	11.6	0.063	0.03
Richmond, VA	85,698	99.98	440	5.29	17.5	0.096	0.01-
Roanoke, VA	30,622	99.98	144	4.82	6.0	0.031	0.03
West Virginia	244,259	98.98	1,489	6.09+	10.0	0.057	0.03
Charleston, WV	34,215	99.96	206	6.07	10.5	0.060	0.06
Huntington, WV-KY-OH	40,891	99.95	227	5.56	9.2	0.048	0.07
Parkersburg, WV-OH	19,888	99.94	144	7.28	12.3	0.097	0.00
Wheeling, WV-OH	22,016	82.51	112	5.25	9.7	0.045	0.04
North Carolina	689,138	99.93	3,072	4.54-	13.4	0.056	0.04
Asheville, NC	24,469	99.92	120	4.95	17.4	0.079	0.04
Burlington, NC	14,505	99.99	67	4.72	17.5	0.074	0.15
Charlotte, NC	109,337	99.79	478	4.48	11.7	0.048	0.08
Fayetteville, NC	13,388	99.98	44	3.39	49.1	0.170	0.08
Greensboro, NC	99,387	99.97	448	4.61	20.8	0.084	0.04
Hickory, NC	23,392	99.97	119	5.18	8.8	0.046	0.00
Jacksonville, NC	5,134	99.86	19	3.77	70.8	0.228	0.00
Raleigh-Durham, NC	56,484	99.86	256	4.68	20.8	0.091	0.03
Wilmington, NC	12,634	99.97	64	5.24	21.1	0.087	0.08
South Carolina	329,020	99.44	1,946	6.03+	12.3	0.072	0.04
Anderson, SC	16,583	99.70	102	6.28	9.9	0.065	0.06
Charleston, SC	34,246	98.90	206	6.14	5.0	0.032	0.09
Columbia, SC	35,361	99.98	194	5.64	21.1	0.123	0.09
Florence, SC	11,195	99.96	79	7.35	14.6	0.099	0.00
Greenville, SC	65,893	98.01	370	5.76	14.7	0.081	0.02
Georgia	561,716	99.71	3,394	6.18+	15.3	0.087	0.06
Albany, GA	9,292	99.92	65	7.22	17.9	0.115	0.00
Athens, GA	13,510	99.96	100	7.59	19.5	0.153	0.15
Atlanta, GA	189,539	99.27	1,103	6.02+	16.3	0.088	0.05
Augusta, GA-SC	32,938	99.93	159	4.94	12.7	0.065	0.09
Columbus, GA-AL	22,847	99.96	121	5.46	17.4	0.095	0.00
Macon, GA	25,929	99.97	165	6.64	7.2	0.041	0.04
Savannah, GA	25,338	99.94	145	5.83	0.0	0.000	0.04

See notes at end of table.

Table 3. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Florida	1,705,534	90.97	8,241	4.72-	14.7	0.069	0.02-
Bradenton, FL	42,906	99.68	171	3.86-	17.1	0.066	0.02
Daytona Beach, FL	62,816	92.90	289	4.50	15.1	0.062	0.01
Fort Lauderdale, FL	181,839	81.09	811	4.41-	19.2	0.083	0.02
Fort Myers, FL	61,428	99.65	301	4.65	12.2	0.052	0.00
Fort Pierce, FL	41,198	99.28	205	4.73	16.3	0.079	0.05
FT. Walton Beach, FL	10,169	99.88	44	4.25	0.0	0.000	0.00
Gainesville, FL	16,758	99.58	85	4.99	12.8	0.060	0.06
Jacksonville, FL	80,895	98.22	448	5.60	22.9	0.128	0.01-
Lakeland, FL	55,495	99.56	275	4.81	0.0	0.000	0.07
Melbourne, FL	46,501	99.72	183	3.80-	5.4	0.024	0.02
Miami-Hialeah, FL	168,502	79.57	876	5.20	11.7	0.062	0.00
Naples, FL	23,433	99.75	100	3.98	33.3	0.141	0.00
Ocala, FL	31,367	99.50	143	4.33	19.0	0.071	0.00
Orlando, FL	90,604	98.55	521	5.71	15.5	0.091	0.00
Panama City, FL	11,817	99.70	67	5.58	19.6	0.093	0.00
Pensacola, FL	29,972	99.89	171	5.72	14.5	0.071	0.03
Sarasota, FL	77,895	99.81	274	3.35-	24.8	0.088	0.04
Tallahassee, FL	17,414	97.85	64	3.70	0.0	0.000	0.00
Tampa, FL	323,951	87.05	1,586	4.83	14.8	0.074	0.02-
West Palm Beach, FL	139,729	85.22	648	4.51	5.1-	0.021-	0.01-
East South Central	1,726,272	99.80	10,472	6.07+	13.5	0.079	0.04
Kentucky	422,657	99.70	2,292	5.41	9.3-	0.049-	0.03
Lexington, KY	31,008	98.87	151	4.96	11.9	0.063	0.03
Louisville, KY-IN	107,485	99.20	620	5.90	6.5	0.038	0.01-
Owensboro, KY	10,319	99.96	56	5.55	18.2	0.099	0.10
Tennessee	550,327	99.65	3,405	6.21+	15.9	0.095	0.04
Chattanooga, TN-GA	50,061	99.97	296	6.02	29.0	0.163	0.02
Clarksville, TN-KY	12,541	99.91	75	5.95	12.3	0.078	0.00
Jackson, TN	10,064	99.95	56	5.63	0.0	0.000	0.09
Johnson City, TN-VA	55,068	99.97	337	6.15	9.9	0.056	0.02
Knoxville, TN	70,970	99.96	403	5.74	23.6	0.131	0.03
Memphis, TN-AR-MS	88,836	98.06	489	5.58	14.7	0.077	0.10
Nashville, TN	92,994	99.96	584	6.36+	15.8	0.096	0.02

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Table 3. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Alabama	463,131	99.97	2,825	6.14+	12.4	0.072	0.04
Anniston, AL	13,124	99.97	74	5.73	0.0	0.000	0.00
Birmingham, AL	108,546	99.98	608	5.70	12.2	0.064	0.06
Dothan, AL	12,690	99.94	88	7.00	0.0	0.000	0.08
Florence, AL	16,687	99.97	78	4.69	0.0	0.000	0.00
Gadsden, AL	14,295	99.97	74	5.26	0.0	0.000	0.00
Huntsville, AL	17,137	99.96	92	5.43	0.0	0.000	0.00
Mobile, AL	50,513	99.96	322	6.38	6.9	0.041	0.06
Montgomery, AL	29,832	99.97	170	5.83	6.0	0.033	0.00
Tuscaloosa, AL	13,604	99.99	84	6.25	0.0	0.000	0.00
Mississippi	290,157	99.98	1,950	6.67+	15.9	0.105	0.04
Biloxi-Gulfport, MS	18,079	99.97	121	6.64	40.2	0.294	0.11
Jackson, MS	35,305	99.98	216	6.18	9.7	0.054	0.08
Pascagoula, MS	8,556	99.88	47	5.44	0.0	0.000	0.00
West South Central	2,584,974	99.74	15,478	5.94+	13.9	0.079	0.03-
Arkansas	321,739	99.96	1,943	5.92+	9.2	0.051	0.02-
Fayetteville, AR	11,803	99.95	69	5.77	0.0	0.000	0.00
Fort Smith, AR-OK	21,413	99.98	113	5.27	9.0	0.046	0.00
Little Rock, AR	50,966	99.99	274	5.45	7.8	0.039	0.02
Pine Bluff, AR	11,012	99.98	63	5.66	16.2	0.084	0.00
Louisiana	415,968	99.98	2,700	6.48+	13.5	0.082	0.03
Alexandria, LA	13,819	99.96	92	6.68	12.8	0.069	0.00
Baton Rouge, LA	39,583	99.97	242	6.15	13.8	0.078	0.00
Houma-Thibodaux, LA	13,501	100.00	80	5.93	14.3	0.081	0.00
Lafayette, LA	14,620	99.99	89	6.15	0.0	0.000	0.00
Lake Charles, LA	16,436	99.98	101	6.10	0.0	0.000	0.06
Monroe, LA	14,648	99.99	100	6.87	10.0	0.065	0.00
New Orleans, LA	118,708	99.98	676	5.79	9.0	0.051	0.02
Shreveport, LA	36,822	99.98	252	6.91+	16.7	0.102	0.02
Oklahoma	378,716	99.02	2,338	6.14+	14.2	0.081	0.03
Enid, OK	8,215	99.94	57	6.95	0.0	0.000	0.00
Lawton, OK	8,221	99.99	46	5.58	0.0	0.000	0.00
Oklahoma City, OK	88,646	97.45	568	6.49+	16.6	0.098	0.02
Tulsa, OK	71,032	98.13	419	5.98	15.1	0.084	0.05

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Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Texas	1,468,551	99.81	8,497	5.74+	15.0	0.083	0.03
Abilene, TX	13,100	99.96	64	4.92	14.9	0.073	0.07
Amarillo, TX	19,063	99.97	106	5.61	36.4	0.216	0.16
Austin, TX	47,578	99.95	260	5.46	11.6	0.062	0.00
Beaumont, TX	42,323	99.98	271	6.35	8.9	0.048	0.05
Brazoria, TX	12,486	99.78	81	6.42	13.4	0.088	0.00
Brownsville, TX	20,169	99.86	109	5.08	0.0	0.000	0.04
Bryan, TX	6,955	99.96	41	5.88	21.6	0.139	0.00
Corpus Christi, TX	28,417	95.56	194	6.73	11.1	0.073	0.00
Dallas, TX	172,118	99.95	916	5.44	16.9	0.089	0.04
El Paso, TX	37,292	99.94	208	5.42	5.0	0.027	0.03
Fort Worth, TX	97,947	99.96	514	5.32	17.8	0.094	0.03
Galveston, TX	19,376	99.94	134	6.84	24.2	0.163	0.05
Houston, TX	187,992	99.85	1,060	5.67	12.1	0.066	0.02
Killeen-Temple, TX	17,182	99.97	97	5.59	12.7	0.058	0.05
Laredo, TX	8,421	99.99	65	7.43	15.0	0.111	0.00
Longview, TX	20,547	99.98	115	5.62	33.7	0.189	0.05
Lubbock, TX	18,957	99.97	143	7.48	28.8	0.216	0.10
McAllen, TX	27,402	99.82	201	6.80	15.3	0.111	0.00
Midland, TX	7,362	99.96	59	8.00	37.2	0.291	0.14
Odessa, TX	9,207	99.99	36	3.88	0.0	0.000	0.00
San Angelo, TX	11,213	99.99	51	4.52	0.0	0.000	0.00
San Antonio, TX	107,989	99.28	604	5.57	6.7	0.037	0.01-
Sherman-Denison, TX	14,532	99.99	91	6.27	22.5	0.134	0.00
Texas-Kana, TX-AR	15,315	99.99	84	5.47	24.2	0.125	0.00
Tyler, TX	18,223	99.98	113	6.17	19.6	0.111	0.00
Victoria, TX	6,871	99.97	39	5.56	0.0	0.000	0.00
Waco, TX	23,624	99.99	131	5.57	48.6	0.246	0.00
Wichita Falls, TX	14,462	99.97	83	5.81	0.0	0.000	0.00
West	4,539,951	93.08	15,856	3.43-	15.3	0.056-	0.04
Mountain	1,200,638	94.36	6,522	5.29	13.3	0.071	0.03
Montana	97,248	99.90	674	6.69+	16.7	0.112	0.05
Billings, MT	12,097	99.88	93	7.58	0.0	0.000	0.00
Great Falls, MT	9,076	99.91	70	7.56	43.7	0.332	0.00
Idaho	109,822	99.77	501	4.37	16.0	0.073	0.07
Boise City, ID	18,471	99.90	77	4.13	11.5	0.055	0.11
Wyoming	42,408	99.91	321	7.37+	12.9	0.093	0.00
Casper, WY	5,379	99.91	44	8.19	22.1	0.191	0.00
Cheyenne, WY	6,886	99.96	47	6.76	0.0	0.000	0.00

See notes at end of table.

Table 3. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Colorado	266,663	94.73	1,093	4.07-	14.9	0.062	0.03
Boulder-Longmont, CO	15,143	97.96	40	2.68-	0.0	0.000	0.06
Colorado Springs, CO	24,899	95.03	109	4.41	0.0	0.000	0.00
Denver, CO	119,624	94.10	493	4.17-	16.2	0.075	0.03
Fort Collins, CO	15,089	99.71	52	3.39	60.2	0.194	0.06
Greeley, CO	11,610	99.62	64	5.37	69.7	0.334	0.08
Pueblo, CO	15,372	94.43	49	3.14-	0.0	0.000	0.06
New Mexico	125,371	92.49	668	5.17	13.1	0.071	0.03
Albuquerque, NM	33,783	81.01	111	3.33-	17.1	0.061	0.05
Las Cruces, NM	9,375	99.94	60	6.11	16.0	0.110	0.11
Santa Fe, NM	8,454	93.66	55	6.38	18.3	0.119	0.00
Arizona	348,748	91.33	2,057	5.74+	8.3-	0.048-	0.02-
Phoenix, AZ	187,381	86.74	1,138	6.01+	6.7-	0.039-	0.02
Tucson, AZ	70,550	96.06	396	5.50	9.8	0.058	0.01-
Utah	128,579	99.92	903	6.83+	15.7	0.103	0.04
Provo-Orem, UT	16,076	99.93	145	8.71+	14.4	0.128	0.00
Salt Lake City, UT	77,243	99.94	466	5.95	14.0	0.079	0.05
Nevada	81,799	86.15	305	3.59-	21.1	0.085	0.01-
Las Vegas, NV	45,252	82.98	175	3.74-	24.2	0.105	0.02
Reno, NV	19,133	89.17	75	3.80	27.4	0.115	0.00
Pacific	3,339,313	92.62	9,334	2.76-	16.6	0.052-	0.04
Washington	461,706	92.41	997	2.12-	19.9	0.051	0.03
Bellevue, WA	13,629	99.51	20	1.44-	0.0	0.000	0.00
Bremerton, WA	15,439	96.59	32	2.04-	0.0	0.000	0.00
Olympia, WA	14,254	90.98	41	2.85-	0.0	0.000	0.00
Richland, WA	12,559	99.85	32	2.47-	59.1	0.175	0.00
Seattle, WA	159,828	86.57	316	1.98-	26.1	0.061	0.01-
Spokane, WA	41,237	94.51	87	2.10-	29.8	0.069	0.08
Tacoma, WA	50,245	97.24	109	2.14-	0.0	0.000	0.02
Vancouver, WA	17,048	80.32	37	2.17-	0.0	0.000	0.09
Yakima, WA	22,738	99.74	47	2.00-	29.3	0.085	0.00
Oregon	303,778	86.84	914	2.95-	17.8	0.061	0.05
Eugene, OR	28,947	88.67	79	2.67-	37.7	0.139	0.12
Medford, OR	20,326	99.78	47	2.22-	16.5	0.050	0.00
Portland, OR	99,155	72.79	290	3.00-	17.6	0.056	0.03
Salem, OR	33,249	90.39	118	3.49-	20.5	0.085	0.05

See notes at end of table.

Table 3. Hernia of abdominal cavity: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
California	2,477,248	93.71	7,228	2.89-	15.8	0.051-	0.04
Anaheim-Santa Ana, CA	167,171	89.39	540	3.30-	12.9	0.046	0.02
Bakersfield, CA	44,969	99.76	172	3.68-	22.7	0.093	0.09
Chico, CA	27,102	99.09	67	2.37-	14.1	0.037	0.04
Fresno, CA	58,425	99.90	186	3.10-	9.5	0.033	0.06
Los Angeles, CA	677,939	91.40	2,121	3.15-	14.7	0.052	0.04
Merced, CA	13,462	99.86	35	2.51-	27.7	0.077	0.08
Modesto, CA	33,619	98.80	104	3.04-	24.3	0.090	0.03
Oakland, CA	188,258	99.08	502	2.66-	22.3	0.063	0.04
Oxnard-Ventura, CA	49,488	93.74	154	3.08-	5.9	0.020	0.00
Redding, CA	17,796	99.73	49	2.65-	22.2	0.061	0.06
Riverside, CA	203,246	90.92	583	2.81-	19.1	0.060	0.04
Sacramento, CA	120,273	91.81	285	2.33-	19.3	0.051	0.03
Salinas, CA	29,131	99.86	99	3.31-	28.0	0.102	0.10
San Diego, CA	205,402	91.35	592	2.85-	12.6	0.038-	0.04
San Francisco, CA	163,753	89.02	431	2.63-	19.9	0.063	0.03
San Jose, CA	105,258	99.50	268	2.55-	6.8	0.019-	0.06
Santa Barbara, CA	38,021	99.70	126	3.26-	16.1	0.050	0.02
Santa Cruz, CA	24,640	99.77	49	1.95-	0.0	0.000	0.00
Santa Rosa, CA	44,775	99.49	101	2.22-	16.2	0.043	0.10
Stockton, CA	40,855	91.54	107	2.50-	24.2	0.071	0.04
Vallejo, CA	35,778	98.59	82	2.24-	12.1	0.027	0.02
Visalia, CA	28,811	99.91	83	2.76-	13.3	0.034	0.03
Yuba City, CA	11,835	99.35	53	4.29	0.0	0.000	0.00
Alaska	16,348	99.78	37	2.13-	37.7	0.070	0.14
Anchorage, AK	5,625	99.75	7	1.22-	0.0	0.000	0.23
Hawaii	80,233	83.64	158	1.79-	21.8	0.038	0.03
Honolulu, HI	57,680	83.31	116	1.86-	9.6	0.018-	0.03

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Fracture of the neck of femur

In 1986, there were 187,739 hospitalizations for fracture of the neck of the femur (hip fracture) among the Medicare elderly. This represented 7.03 hospitalizations per 1,000 enrollees. Post-admission mortality was relatively high for persons with this condition, with 63.5 deaths per 1,000 discharges within 30 days of hospital admission.

The rate of deaths per 1,000 persons (the last column in Tables 1-3) is not applicable for this condition because fractures are not coded as an underlying cause of death.

Age and sex patterns

The discharge rate for women was more than 2½ times that for men (9.28 discharges per 1,000 women versus 3.62 per 1,000 men), reflecting the fact that osteoporosis, a common underlying cause of hip fracture, is much more common among women than among men. The hospitalization rate for hip fracture increased sharply with age, with 2.47 discharges per 1,000 enrollees aged 65-74 versus 26.22 per 1,000 enrollees aged 85 or over, reflecting the increased prevalence of osteoporosis at advanced ages.

Thirty-day post-admission deaths per 1,000 discharges increased substantially with age for both men and women. Among men, mortality increased from 59.7 deaths per 1,000 discharges in the age group 65-74 to

157.4 deaths per 1,000 discharges for those 85 years or over. Post-admission mortality per 1,000 discharges was approximately twice as high for men as for women in all age groups, with the rate for women rising from 27.9 deaths per 1,000 discharges in the age group 65-74 to 75.3 deaths per 1,000 for those 85 years or over.

Patterns by race

Hospitalization for fracture of the neck of the femur was much more common among white persons than among black persons in all age and sex groups. There were 7.44 discharges per 1,000 white enrollees and 3.07 discharges per 1,000 black enrollees. These differences reflect the fact that osteoporosis is more common among white than black persons.

Thirty-day post-admission mortality rates per 1,000 discharges were slightly higher among white persons than among black persons for most age and sex groups. The exception was women aged 65-74 (27.9 deaths per 1,000 discharges for white women and 32.4 deaths per 1,000 discharges for black women).

Variations by geographic area

Tables 2 and 3 contain data on utilization and mortality by geographic area. The tables are broken out by U.S. census region, division, and State. Data on metropolitan and rural areas within each State are shown in Table 2, whereas data at the metropolitan

statistical area (MSA) level are shown in Table 3. Figures 1 and 2 were derived from the data in the tables.

Discharge rates

The variation in discharge rates across the United States is shown in Figure 1. The States with the highest hospital discharge rates tended to be in the Southwestern section of the Nation. The highest discharge rate was recorded in Tennessee, 8.36 discharges per 1,000 enrollees. The States with the lowest discharge rates tended to be on the east coast, with the lowest rate occurring in the District of Columbia (4.33 discharges per 1,000). The low rate in the District of Columbia may result, in part, from incomplete claims reporting. It may also reflect the large number of black Medicare enrollees, who have lower discharge rates than white enrollees. As shown in Figure 2, the census divisions with the highest median discharge rates were the East South Central and West South Central. The division with the lowest median rate was the Middle Atlantic.

Nationwide, the variation in discharge rates among MSAs was not great. The coefficient of variation for discharges per 1,000 enrollees was only 0.13, the lowest of any of the diagnostic categories (along with all cancers). This probably results from the emergency nature of this condition and the lack of discretion regarding the decision to hospitalize.

NOTE: Fracture of the neck of femur is ICD-9-CM code 820.

Correlations between rates

The correlation coefficient between discharge rates and 30-day mortality per 1,000 discharges was not significant ($r = 0.09$). The correlation between discharge rates and population death rates could not be calculated because fracture of the neck of the femur is never coded as an underlying cause of death.

Urban-rural patterns

Nationwide, the discharge rate was slightly higher in rural areas (7.18 discharges per 1,000 enrollees) than in urban areas (6.98 per 1,000). This pattern held true in the Northeast and North Central Regions. Urban discharge rates were slightly higher than rural rates in the West, however, and urban and rural rates were identical in the South. Thirty-day post-admission death rates per 1,000 discharges were slightly higher in rural than in urban areas nationwide and in three of the four census regions.

Table 1. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by age, sex, and race: United States, 1986

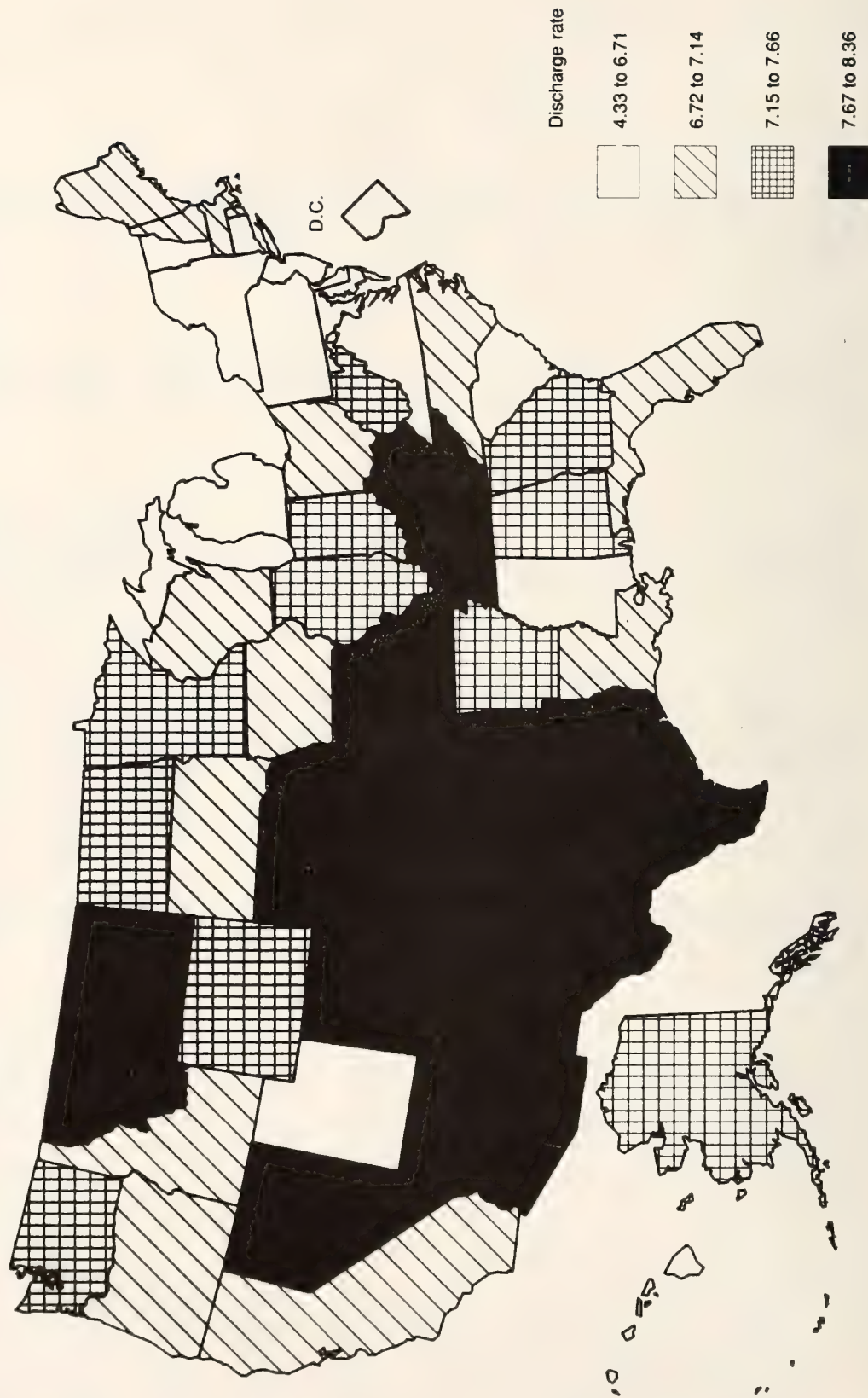
Age, sex, and race	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
All persons (1)	26,698,924	96.70	187,739	7.03	63.5	0.45	--
65-74 years	16,162,594	96.33	40,000	2.47	36.1	0.09	--
75-84 years	8,020,447	96.96	81,765	10.19	56.1	0.57	--
85 years or over	2,515,883	98.32	65,974	26.22	89.4	2.34	--
Men	10,650,991	96.01	38,659	3.62	108.4	0.39	--
65-74 years	7,056,445	95.90	10,211	1.44	59.7	0.09	--
75-84 years	2,912,366	96.02	17,092	5.86	104.9	0.62	--
85 years or over	682,180	97.22	11,356	16.64	157.4	2.62	--
Women	16,047,933	97.16	149,080	9.28	51.9	0.48	--
65-74 years	9,106,149	96.66	29,789	3.27	27.9	0.09	--
75-84 years	5,108,081	97.51	64,673	12.66	43.2	0.55	--
85 years or over	1,833,703	98.74	54,618	29.78	75.3	2.24	--
White	23,574,066	96.62	175,562	7.44	64.1	0.48	--
65-74 years	14,207,064	96.23	36,988	2.60	36.5	0.10	--
75-84 years	7,134,499	96.88	76,703	10.75	56.2	0.60	--
85 years or over	2,232,503	98.26	61,871	27.71	90.3	2.50	--
Men	9,391,016	95.94	35,682	3.79	110.5	0.42	--
65-74 years	6,216,472	95.83	9,298	1.49	62.3	0.09	--
75-84 years	2,573,989	95.94	15,786	6.13	105.7	0.65	--
85 years or over	600,555	97.12	10,598	17.64	159.8	2.62	--
Women	14,183,050	97.07	139,880	9.86	52.2	0.52	--
65-74 years	7,990,592	96.55	27,690	3.46	27.9	0.10	--
75-84 years	4,560,510	97.42	60,917	13.35	43.4	0.58	--
85 years or over	1,631,948	98.69	51,273	31.41	75.9	2.38	--
Black	1,991,943	97.86	6,131	3.07	58.7	0.18	--
65-74 years	1,213,014	97.54	1,468	1.21	32.0	0.04	--
75-84 years	583,429	98.11	2,478	4.24	55.3	0.23	--
85 years or over	195,500	99.11	2,185	11.17	80.5	0.90	--
Men	792,788	97.49	1,706	2.15	89.7	0.19	--
65-74 years	519,305	97.28	542	1.04	31.4	0.03	--
75-84 years	215,401	97.67	712	3.30	99.7	0.33	--
85 years or over	58,082	98.74	452	7.78	143.8	1.12	--
Women	1,199,155	98.10	4,425	3.69	46.8	0.17	--
65-74 years	693,709	97.74	926	1.33	32.4	0.04	--
75-84 years	368,028	98.37	1,766	4.79	37.4	0.18	--
85 years or over	137,418	99.26	1,733	12.61	64.1	0.81	--

(1) Includes persons of other races in addition to white and black persons.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data.

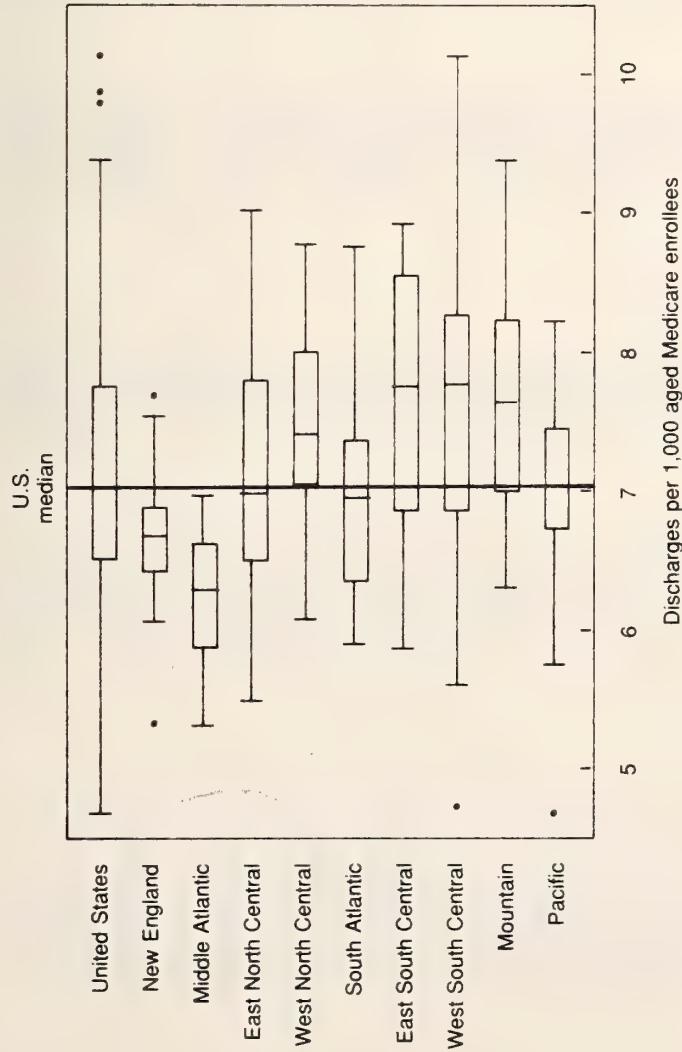
SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Figure 1. Fracture of the neck of femur: Short-stay hospital discharges per 1,000 aged Medicare enrollees, by State: 1986



NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included.
SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Figure 2. Fracture of the neck of femur: Short-stay hospital discharges per 1,000 aged Medicare enrollees for rural and metropolitan statistical areas, by division: United States, 1986



Outliers for discharges per 1,000 enrollees

Area	Rural or metropolitan statistical area	Rate
United States	Killeen-Temple, TX	9.82
	Abilene, TX	9.90
	Monroe, LA	10.14
New England	New Bedford, MA	5.34
	Burlington, VT	7.69
West South Central	Pine Bluff, AR	4.72
Pacific	Rural counties, HI	4.67

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy. Data from the Medicare Statistical System.

Table 2. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
United States	26,698,924	96.70	187,739	7.03	63.5	0.446	--
Metropolitan	19,363,284	95.80	135,428	6.98	63.1	0.441	--
Rural	7,335,640	99.16	52,311	7.18+	64.5	0.457	--
Northeast	6,276,897	98.04	40,674	6.35-	61.4	0.395-	--
Metropolitan	5,564,648	97.84	36,048	6.33-	60.9	0.391-	--
Rural	712,249	99.69	4,626	6.52-	65.0	0.427	--
New England	1,569,313	96.20	11,079	6.70-	60.7	0.416	--
Metropolitan	1,342,886	95.66	9,600	6.75-	59.1	0.410	--
Rural	226,427	99.53	1,479	6.43	71.1	0.451	--
Maine	153,209	99.88	1,080	6.79	66.2	0.447	--
Metropolitan	82,345	99.89	595	6.91	57.2	0.409	--
Rural	70,864	99.87	485	6.65	77.8	0.493	--
New Hampshire	114,752	98.98	792	6.79	65.4	0.453	--
Metropolitan	74,135	98.55	526	6.88	59.6	0.416	--
Rural	40,617	99.77	266	6.62	76.1	0.522	--
Vermont	62,781	99.82	422	6.45	56.1	0.353	--
Metropolitan	10,422	99.91	85	7.69	47.9	0.377	--
Rural	52,359	99.80	337	6.20	58.2	0.348	--
Massachusetts	709,478	93.75	5,325	6.89	60.1	0.423	--
Metropolitan	659,025	93.40	5,018	6.94	59.1	0.420	--
Rural	50,453	98.58	307	6.13	75.3	0.479	--
Rhode Island	132,332	97.59	924	6.73	68.5	0.471	--
Metropolitan	132,332	97.59	924	6.73	68.5	0.471	--
Rural	0	0.00	0	0.00	0.0	0.000	--
Connecticut	396,761	97.56	2,536	6.32-	56.0	0.368-	--
Metropolitan	384,627	97.50	2,452	6.31-	56.2	0.370	--
Rural	12,134	99.66	84	6.68	49.3	0.320	--
Middle Atlantic	4,707,584	98.68	29,595	6.23-	61.7	0.388-	--
Metropolitan	4,221,762	98.55	26,448	6.19-	61.6	0.386-	--
Rural	485,822	99.76	3,147	6.57-	62.2	0.415	--
New York	2,143,249	98.98	13,717	6.10-	63.5	0.393-	--
Metropolitan	1,922,371	98.89	12,199	6.03-	63.5	0.388-	--
Rural	220,878	99.75	1,518	6.72	63.4	0.427	--

See notes at end of table.

Table 2. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Jersey	916,155	97.84	5,616	6.27-	60.4	0.385-	--
Metropolitan	916,155	97.84	5,616	6.27-	60.4	0.385-	--
Rural	0	0.00	0	0.00	0.0	0.000	--
Pennsylvania	1,648,180	98.75	10,262	6.38-	59.8	0.384-	--
Metropolitan	1,383,236	98.56	8,633	6.37-	59.6	0.381-	--
Rural	264,944	99.78	1,629	6.43	61.2	0.403	--
North Central	6,901,975	96.39	51,228	7.21+	66.4	0.487+	--
Metropolitan	4,398,761	95.22	32,281	7.19	67.0	0.491+	--
Rural	2,503,214	98.51	18,947	7.25+	65.4	0.478	--
East North Central	4,745,430	97.76	33,398	7.03	66.4	0.474+	--
Metropolitan	3,453,558	97.13	24,043	6.97	65.8	0.469	--
Rural	1,291,872	99.47	9,355	7.21	67.8	0.491	--
Ohio	1,263,869	99.46	8,833	7.08	66.0	0.474	--
Metropolitan	987,528	99.60	6,908	7.11	65.7	0.474	--
Rural	276,341	98.95	1,925	6.97	67.0	0.475	--
Indiana	623,062	97.86	4,696	7.51+	72.7	0.546+	--
Metropolitan	399,457	97.01	3,006	7.52	77.2+	0.593+	--
Rural	223,605	99.41	1,690	7.49	64.5	0.467	--
Illinois	1,265,011	95.90	9,320	7.20	63.3	0.462	--
Metropolitan	952,934	94.73	6,763	7.01	60.6	0.431	--
Rural	312,077	99.58	2,557	7.76+	70.1	0.549	--
Michigan	982,444	96.86	6,213	6.52-	72.7+	0.490	--
Metropolitan	744,347	96.06	4,734	6.48-	70.0	0.470	--
Rural	238,097	99.44	1,479	6.65	81.1	0.549	--
Wisconsin	611,044	99.60	4,336	6.91	58.3	0.412	--
Metropolitan	369,292	99.43	2,632	6.86	58.9	0.415	--
Rural	241,752	99.86	1,704	6.98	57.5	0.407	--
West North Central	2,156,545	93.50	17,830	7.57+	66.4	0.509+	--
Metropolitan	945,203	88.82	8,238	7.94+	70.5	0.568+	--
Rural	1,211,342	97.51	9,592	7.28	63.2	0.465	--
Minnesota	397,258	77.30	3,285	7.24	68.5	0.524	--
Metropolitan	187,915	67.07	1,700	7.53	71.9	0.573	--
Rural	209,343	89.55	1,585	6.95	65.2	0.480	--

See notes at end of table.

Table 2. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Iowa							
Metropolitan	404,057	99.37	3,166	7.14	69.9	0.500	--
Rural	136,818	98.24	1,118	7.58	68.4	0.512	--
	267,239	99.96	2,048	6.93	70.6	0.495	--
Missouri							
Metropolitan	655,875	98.17	5,601	8.09+	68.6	0.561+	--
Rural	383,255	96.99	3,415	8.34+	69.9	0.600+	--
	272,620	99.88	2,186	7.72+	66.6	0.506	--
North Dakota							
Metropolitan	85,433	98.28	648	7.30	48.8	0.385	--
Rural	22,964	98.14	170	6.83	38.4	0.273	--
	62,469	98.34	478	7.48	52.1	0.424	--
South Dakota							
Metropolitan	96,216	99.59	719	6.89	60.0	0.410	--
Rural	20,427	99.92	148	6.90	77.2	0.503	--
	75,789	99.51	571	6.89	56.0	0.386	--
Nebraska							
Metropolitan	209,910	98.52	1,794	7.70	65.3	0.485	--
Rural	70,076	95.86	589	7.72	66.7	0.501	--
	139,834	99.91	1,205	7.69	64.6	0.479	--
Kansas							
Metropolitan	307,796	95.82	2,617	7.73+	62.5	0.479	--
Rural	123,748	95.24	1,098	8.33+	79.0	0.634+	--
	184,048	97.63	1,519	7.35	51.8	0.386	--
South							
Metropolitan	8,980,101	97.94	63,723	7.26+	63.7	0.452	--
Rural	5,757,016	96.87	40,852	7.26+	63.6	0.455	--
	3,223,085	99.91	22,871	7.26+	63.7	0.445	--
South Atlantic							
Metropolitan	4,668,855	96.31	30,608	6.82-	63.5	0.428	--
Rural	3,313,125	94.94	21,925	6.82-	64.0	0.436	--
	1,355,730	99.84	8,683	6.82	62.3	0.409	--
Delaware							
Metropolitan	70,251	99.94	438	6.54	57.1	0.367	--
Rural	44,355	99.95	307	7.18	56.5	0.411	--
	25,896	99.94	131	5.40	58.7	0.293	--
Maryland							
Metropolitan	436,606	99.49	2,521	5.94-	56.8	0.339-	--
Rural	395,091	99.44	2,259	5.89-	57.3	0.342-	--
	41,515	99.95	262	6.46	52.2	0.318	--
District of Col.							
Metropolitan	66,196	99.75	321	4.33-	53.1	0.200-	--
Rural	66,196	99.75	321	4.33-	53.1	0.200-	--
	0	0.00	0	0.00	0.0	0.000	--

See notes at end of table.

Table 2. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	3,678	6.71	62.8	0.417	--
Metropolitan	355,193	99.87	2,264	6.55	63.7	0.421	--
Rural	210,942	99.97	1,414	6.98	61.3	0.409	--
West Virginia	244,259	98.98	1,797	7.51	64.4	0.460	--
Metropolitan	90,704	97.39	709	7.97	64.1	0.481	--
Rural	153,555	99.95	1,088	7.24	64.5	0.449	--
North Carolina	689,138	99.93	4,397	6.73	61.8	0.407	--
Metropolitan	346,905	99.89	2,267	6.81	61.2	0.413	--
Rural	342,233	99.96	2,130	6.65	62.5	0.400	--
South Carolina	329,020	99.44	1,942	6.40-	74.5	0.444	--
Metropolitan	186,873	99.05	1,143	6.66	78.4	0.481	--
Rural	142,147	99.95	799	6.07-	69.1	0.398	--
Georgia	561,716	99.71	4,150	7.63+	64.7	0.488	--
Metropolitan	313,319	99.54	2,377	7.82+	67.7	0.530	--
Rural	248,397	99.93	1,773	7.38	60.7	0.436	--
Florida	1,705,534	90.97	11,364	6.96	64.1	0.450	--
Metropolitan	1,514,489	90.04	10,278	7.00	64.4	0.454	--
Rural	191,045	99.17	1,086	6.65	62.1	0.405	--
East South Central	1,726,272	99.80	13,101	7.63+	65.9	0.482	--
Metropolitan	873,594	99.64	6,677	7.71+	65.4	0.485	--
Rural	852,678	99.97	6,424	7.55+	66.4	0.479	--
Kentucky	422,657	99.70	3,313	7.86+	61.9	0.473	--
Metropolitan	183,264	99.37	1,388	7.48	58.3	0.427	--
Rural	239,393	99.96	1,925	8.16+	64.4	0.507	--
Tennessee	550,327	99.65	4,526	8.36+	65.2	0.526+	--
Metropolitan	342,007	99.46	2,799	8.22+	62.9	0.497	--
Rural	208,320	99.96	1,727	8.59+	68.7	0.574	--
Alabama	463,131	99.97	3,269	7.17	70.3	0.476	--
Metropolitan	281,960	99.97	2,034	7.38	70.3	0.491	--
Rural	181,171	99.97	1,235	6.86	70.3	0.455	--
Mississippi	290,157	99.98	1,993	6.67	67.0	0.423	--
Metropolitan	66,363	99.96	456	7.07	79.5	0.560	--
Rural	223,794	99.98	1,537	6.56	63.2	0.387	--

See notes at end of table.

Table 2. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
West South Central	2,584,974	99.74	20,014	7.78+	62.4	0.472	--
	1,570,297	99.59	12,250	7.91+	62.1	0.481	--
	1,014,677	99.97	7,764	7.58+	62.9	0.458	--
Arkansas	321,739	99.96	2,425	7.66+	71.6	0.518	--
	100,966	99.98	758	7.45	74.3	0.521	--
	220,773	99.95	1,667	7.76	70.5	0.516	--
Louisiana	415,968	99.98	2,883	6.83	63.4	0.400	--
	268,137	99.98	1,944	7.24	56.7	0.390	--
	147,831	99.99	939	6.12-	76.9	0.416	--
Oklahoma	378,716	99.02	3,137	8.03+	59.5	0.485	--
	180,038	98.00	1,548	8.36+	64.1	0.544	--
	198,678	99.96	1,589	7.74	55.3	0.435	--
Texas	1,468,551	99.81	11,569	8.02+	61.1	0.480	--
	1,021,156	99.73	8,000	8.06+	61.8	0.490	--
	447,395	99.97	3,569	7.92+	59.6	0.457	--
West	4,539,951	93.08	32,114	7.27+	61.3	0.441	--
	3,642,659	91.96	26,247	7.28+	60.7	0.437	--
	897,092	97.88	5,867	7.21	63.9	0.461	--
Mountain	1,200,638	94.36	8,700	7.79+	65.9	0.506+	--
	720,893	92.10	5,402	7.95+	65.5	0.514+	--
	479,745	97.98	3,298	7.53	66.5	0.495	--
Montana	97,248	99.90	738	7.92	66.6	0.535	--
	21,173	99.90	142	7.02	54.9	0.393	--
	76,075	99.91	596	8.17	69.2	0.573	--
Idaho	109,822	99.77	714	6.99	78.8	0.554	--
	18,471	99.90	121	6.83	73.0	0.506	--
	91,351	99.74	593	7.02	80.0	0.564	--
Wyoming	42,408	99.91	298	7.29	61.4	0.447	--
	12,265	99.93	97	8.23	28.0	0.254	--
	30,143	99.89	201	6.91	79.0	0.520	--
Colorado	266,663	94.73	2,237	8.33+	64.4	0.526	--
	201,737	95.23	1,788	8.75+	64.2	0.561	--
	64,926	93.22	449	6.99	65.1	0.423	--

See notes at end of table.

Table 2. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
New Mexico	125,371	92.49	972	8.23+	69.5	0.562	--
	51,612	85.86	383	7.76	85.6	0.633	--
	73,759	97.76	589	8.57+	60.2	0.516	--
Arizona	348,748	91.33	2,449	7.92+	57.0	0.444	--
	257,931	89.11	1,893	7.98+	59.2	0.466	--
	90,817	98.31	556	7.72	49.5	0.377	--
Utah	128,579	99.92	787	6.57	82.9	0.530	--
	93,319	99.94	573	6.54	82.6	0.531	--
	35,260	99.88	214	6.64	83.5	0.525	--
Nevada	81,799	86.15	505	7.77	63.9	0.488	--
	64,385	84.73	405	7.92	68.9	0.523	--
	17,414	91.83	100	7.23	46.4	0.363	--
Pacific	3,339,313	92.62	23,414	7.09	59.6	0.419	--
	2,921,966	91.93	20,845	7.12	59.4	0.419	--
	417,347	97.77	2,569	6.83	60.7	0.420	--
Washington	461,706	92.41	3,278	7.18	62.5	0.456	--
	346,977	90.86	2,536	7.28	62.5	0.459	--
	114,729	97.42	740	6.87	62.3	0.443	--
Oregon	303,778	86.84	2,074	6.86	57.8	0.397	--
	181,677	80.38	1,332	6.93	56.1	0.385	--
	122,101	98.65	742	6.75	60.5	0.419	--
California	2,477,248	93.71	17,595	7.14	59.0	0.416	--
	2,330,007	93.36	16,668	7.15	59.1	0.417	--
	147,241	99.57	927	7.08	57.0	0.407	--
Alaska	16,348	99.78	94	7.48	109.2	0.761	--
	5,625	99.75	24	5.90	157.1	0.808	--
	10,723	99.80	70	8.24	96.6	0.743	--
Hawaii	80,233	83.64	373	5.53-	61.6	0.307	--
	57,680	83.31	283	5.87	62.8	0.327	--
	22,553	84.47	90	4.67-	58.6	0.262	--

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate (p<.01).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths			Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees		
United States	26,698,924	96.70	187,739	7.03	63.5	0.446	--	--
Northeast	6,276,897	98.04	40,674	6.35-	61.4	0.395-	--	--
New England	1,569,313	96.20	11,079	6.70-	60.7	0.416	--	--
Maine	153,209	99.88	1,080	6.79	66.2	0.447	--	--
Bangor, ME	16,035	99.87	119	7.16	64.6	0.478	--	--
Lewiston-Auburn, ME	13,464	99.93	99	6.88	50.2	0.354	--	--
Portland, ME	52,846	99.89	377	6.84	56.7	0.402	--	--
New Hampshire	114,752	98.98	792	6.79	65.4	0.453	--	--
Manchester, NH	44,397	97.91	325	6.93	56.8	0.394	--	--
Portsmouth, NH	29,738	99.52	201	6.80	64.1	0.449	--	--
Vermont	62,781	99.82	422	6.45	56.1	0.353	--	--
Burlington, VT	10,422	99.91	85	7.69	47.9	0.377	--	--
Massachusetts	709,478	93.75	5,325	6.89	60.1	0.423	--	--
Boston, MA	429,794	95.67	3,436	7.19	57.6	0.424	--	--
New Bedford, MA	65,540	98.67	357	5.34-	71.6	0.417	--	--
Pittsfield, MA	20,281	91.00	163	7.55	48.0	0.373	--	--
Springfield, MA	72,225	92.57	529	6.89	56.7	0.400	--	--
Worcester, MA	71,185	79.42	533	6.68	66.3	0.431	--	--
Rhode Island	132,332	97.59	924	6.73	68.5	0.471	--	--
Providence, RI	132,332	97.59	924	6.73	68.5	0.471	--	--
Connecticut	396,761	97.56	2,536	6.32-	56.0	0.368-	--	--
Bridgeport, CT	96,911	96.63	624	6.32	53.0	0.351	--	--
Hartford, CT	157,139	99.16	1,013	6.42	50.4	0.339	--	--
New Haven, CT	102,964	95.31	637	6.06-	57.6	0.356	--	--
New London, CT	27,613	99.70	178	6.59	94.8	0.673	--	--

See notes at end of table.

Table 3. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Middle Atlantic	4,707,584	98.68	29,595	6.23-	61.7	0.388-	--
New York	2,143,249	98.98	13,717	6.10-	63.5	0.393-	--
Albany, NY	115,122	98.78	787	6.62	78.9	0.528	--
Binghamton, NY	35,576	99.96	242	6.63	45.9	0.360	--
Buffalo, NY	134,451	98.66	831	6.30	65.5	0.400	--
Elmira, NY	13,699	99.94	76	5.40	25.2	0.142-	--
Glens Falls, NY	15,222	99.63	101	6.47	20.6-	0.128-	--
Nassau-Suffolk, NY	297,143	99.88	1,752	6.01-	79.6	0.499	--
New York, NY	997,473	99.58	6,412	5.87-	59.8	0.353-	--
Niagara Falls, NY	30,841	99.69	175	6.09	63.0	0.390	--
Orange County, NY	30,488	99.89	163	5.31-	47.4	0.262	--
Poughkeepsie, NY	27,864	98.47	170	5.86	34.5	0.204-	--
Rochester, NY	102,542	88.80	694	6.30	53.8	0.345	--
Syracuse, NY	75,217	99.92	469	6.21	59.6	0.363	--
Utica-Rome, NY	46,733	99.90	327	6.96	92.3	0.683	--
New Jersey	916,155	97.84	5,616	6.27-	60.4	0.385-	--
Atlantic City, NJ	46,406	97.93	309	6.52	74.8	0.458	--
Bergen-Passaic, NJ	171,246	99.45	1,032	6.13-	62.5	0.385	--
Jersey City, NJ	64,069	99.25	350	5.53-	51.0	0.276-	--
Middlesex, NJ	91,009	94.70	559	6.73	60.5	0.430	--
Monmouth-Ocean, NJ	154,643	99.57	972	6.59	66.1	0.433	--
Newark, NJ	211,511	99.40	1,325	6.17-	54.3	0.350	--
Trenton, NJ	38,499	97.14	207	5.48-	45.6	0.244	--
Vineland, NJ	16,382	96.17	84	5.41	58.6	0.330	--
Pennsylvania	1,648,180	98.75	10,262	6.38-	59.8	0.384-	--
Allentown, PA-NJ	94,668	99.09	547	6.08	44.8	0.286-	--
Altoona, PA	20,692	99.99	145	6.90	98.3	0.716	--
Beaver County, PA	27,562	99.95	157	6.48	95.0	0.548	--
Erie, PA	35,244	99.92	223	6.75	82.5	0.493	--
Harrisburg, PA	72,929	99.95	425	5.91-	65.4	0.370	--
Johnstown, PA	40,260	99.97	235	6.34	48.8	0.303	--
Lancaster, PA	48,045	99.93	340	6.80	59.1	0.431	--
Philadelphia PA-NJ	569,054	95.81	3,908	6.79	54.9	0.376-	--
Pittsburgh, PA	323,494	99.06	1,880	6.16-	66.5	0.410	--
Reading, PA	48,476	99.88	265	5.54-	40.0	0.230-	--
Scranton, PA	122,888	99.95	681	5.81-	48.4	0.282-	--
Sharon, PA	19,009	99.97	120	6.64	63.8	0.501	--
State College, PA	10,032	99.97	62	6.40	46.5	0.312	--
Williamsport, PA	16,877	99.98	118	6.88	101.2	0.583	--
York, PA	48,541	99.96	274	5.79	96.8	0.569	--

See notes at end of table.

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Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 non-HMO discharges	Per 1,000 non-HMO enrollees	
North Central	6,901,975	96.39	51,228	7.21+	66.4	0.487+	--
East North Central	4,745,430	97.76	33,398	7.03	66.4	0.474+	--
Ohio	1,263,869	99.46	8,833	7.08	66.0	0.474	--
Akron, OH	75,615	99.90	556	7.49	65.8	0.505	--
Canton, OH	51,895	99.97	344	6.91	86.2	0.582	--
Cincinnati, OH-KY-IN	159,407	99.96	1,238	7.51	69.4	0.516	--
Cleveland, OH	242,585	99.71	1,541	6.55	58.4	0.393	--
Columbus, OH	121,377	99.73	915	7.45	60.6	0.477	--
Dayton, OH	103,547	99.95	767	7.58	75.8	0.586	--
Hamilton, OH	26,009	99.95	208	8.01	60.6	0.472	--
Lima, OH	19,579	99.97	142	7.13	63.3	0.452	--
Lorain-Elyria, OH	27,340	99.85	151	6.04	55.9	0.370	--
Mansfield, OH	15,230	99.96	89	6.09	70.0	0.425	--
Steubenville, OH-WV	21,934	98.57	123	6.23	82.7	0.514	--
Toledo, OH	70,660	99.95	491	6.88	71.1	0.474	--
Youngstown, OH	69,319	99.95	447	7.07	53.6	0.384	--
Indiana	623,062	97.86	4,696	7.51+	72.7	0.546+	--
Anderson, IN	17,198	99.83	150	9.03	83.0	0.812	--
Bloomington, IN	7,913	99.67	68	8.51	67.0	0.633	--
Elkhart-Goshen, IN	15,647	99.92	96	6.00	52.0	0.371	--
Evansville, IN-KY	34,434	95.72	266	7.46	74.3	0.596	--
Fort Wayne, IN	37,565	97.77	314	8.11	59.8	0.493	--
Gary-Hammond, IN	61,160	97.01	320	5.90	84.9	0.512	--
Indianapolis, IN	118,407	93.81	1,021	8.35+	80.7	0.674+	--
Kokomo, IN	10,842	99.94	80	7.50	98.8	0.669	--
Lafayette, IN	11,228	99.92	82	6.95	73.0	0.504	--
Muncie, IN	13,759	99.91	106	7.74	94.6	0.688	--
South Bend, IN	33,170	99.93	223	6.68	97.2	0.640	--
Terre Haute, IN	19,585	99.89	162	7.86	65.2	0.553	--
Illinois	1,265,011	95.90	9,320	7.20	63.3	0.462	--
Aurora-Elgin, IL	30,946	98.68	213	6.58	57.2	0.375	--
Bloomington, IL	12,672	99.94	111	8.04	85.2	0.651	--
Champaign, IL	13,391	99.91	115	8.22	33.1	0.291	--
Chicago, IL	608,135	92.94	4,005	6.53-	57.7	0.377-	--
Decatur, IL	15,992	99.97	151	8.92	32.8	0.298	--
Joliet, IL	28,047	97.18	234	8.53	79.6	0.712	--
Kankakee, IL	12,020	99.94	77	6.47	53.2	0.337	--
Lake County, IL	36,099	96.52	277	7.89	43.1	0.352	--
Peoria, IL	43,549	99.93	357	8.01	96.8	0.816+	--
Rockford, IL	28,351	88.93	224	7.72	88.5	0.689	--
Springfield, IL	24,799	99.96	236	8.94	68.0	0.671	--

See notes at end of table.

Table 3. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Michigan	982,444	96.86	6,213	6.52-	72.7+	0.490	--
Ann Arbor, MI	17,760	95.12	132	7.05	72.1	0.540	--
Battle Creek, MI	16,831	99.89	114	6.69	87.8	0.651	--
Benton Harbor, MI	21,618	99.88	135	6.42	113.7	0.668	--
Detroit, MI	448,826	96.43	2,774	6.40-	65.7	0.441	--
Flint, MI	43,084	91.01	270	6.31	88.6	0.554	--
Grand Rapids, MI	64,091	95.42	491	7.37	71.6	0.521	--
Jackson, MI	17,046	99.82	108	6.41	38.8	0.241	--
Kalamazoo, MI	21,512	99.85	149	6.71	33.6	0.233	--
Lansing, MI	32,460	90.23	200	5.89	90.1	0.566	--
Muskegon, MI	18,957	98.06	139	7.72	86.9	0.735	--
Saginaw, MI	42,162	96.18	222	5.49-	73.0	0.433	--
Wisconsin	611,044	99.60	4,336	6.91	58.3	0.412	--
Appleton, WI	34,483	99.96	211	5.99	32.0-	0.195-	--
Eau Claire, WI	16,955	99.94	110	6.30	47.6	0.273	--
Green Bay, WI	19,185	99.97	152	7.85	79.3	0.677	--
Janesville, WI	16,529	99.85	114	6.54	58.4	0.402	--
Kenosha, WI	14,291	99.91	96	6.75	96.9	0.770	--
LaCrosse, WI	11,858	99.91	102	7.90	96.3	0.693	--
Madison, WI	30,776	99.74	272	8.26	51.6	0.394	--
Milwaukee, WI	166,613	95.21	1,192	6.83	60.7	0.439	--
Racine, WI	20,503	99.90	129	6.16	37.8	0.237	--
Sheboygan, WI	14,461	99.98	99	6.64	39.4	0.264	--
Wausau, WI	12,945	99.95	77	6.01	68.7	0.452	--
West North Central	2,156,545	93.50	17,830	7.57+	66.4	0.509+	--
Minnesota	397,258	77.30	3,285	7.24	68.5	0.524	--
Duluth, MN-WI	29,977	76.74	229	7.19	66.5	0.471	--
Minneapolis, MN-WI	141,769	64.45	1,317	7.57	70.3	0.573	--
Rochester, MN	9,393	99.67	88	8.07	86.6	0.744	--
St. Cloud, MN	12,248	70.92	105	7.26	63.6	0.452	--
Iowa	404,057	99.37	3,166	7.14	69.9	0.500	--
Cedar Rapids, IA	19,323	99.94	151	7.34	58.4	0.435	--
Davenport, IA-IL	44,646	99.94	354	7.77	51.3	0.419	--
Des Moines, IA	40,067	94.50	363	8.24	83.4	0.651	--
Dubuque, IA	11,460	99.95	99	7.86	105.1	0.741	--
Iowa City, IA	6,240	99.90	45	6.51	86.2	0.592	--
Sioux City, IA-NE	15,951	99.96	130	7.34	42.5	0.330	--
Waterloo, IA	19,521	99.96	129	6.34	70.5	0.437	--

See notes at end of table.

Table 3. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
Missouri	655,875	98.17	5,601	8.09+	68.6	0.561+	--
Columbia, MO	8,560	99.98	65	7.15	101.7	0.548	--
Joplin, MO	19,275	99.95	169	8.66	70.1	0.631	--
Kansas City, MO-KS	154,919	95.72	1,457	8.81+	77.4	0.683+	--
St. Joseph, MO	13,630	99.97	126	8.51	141.8	1.286+	--
St. Louis, MO-IL	283,167	97.43	2,381	8.00+	63.0	0.517	--
Springfield, MO	27,676	99.94	244	8.43	49.4	0.419	--
North Dakota	85,433	98.28	648	7.30	48.8	0.385	--
Bismarck, ND	8,160	95.13	52	6.08	19.4	0.117-	--
Fargo, ND-MN	14,138	96.57	112	7.08	82.5	0.536	--
Grand Forks, ND	5,687	99.95	45	7.20	18.0	0.153	--
South Dakota	96,216	99.59	719	6.89	60.0	0.410	--
Rapid City, SD	7,152	99.89	46	6.59	80.3	0.426	--
Sioux Falls, SD	13,275	99.93	102	7.05	76.1	0.540	--
Nebraska	209,910	98.52	1,794	7.70	65.3	0.485	--
Lincoln, NE	20,994	98.50	164	6.97	68.1	0.508	--
Omaha, NE-IA	57,609	95.39	495	8.01	58.2	0.440	--
Kansas	307,796	95.82	2,617	7.73+	62.5	0.479	--
Lawrence, KS	4,965	87.78	43	7.64	27.2	0.176	--
Topeka, KS	18,983	97.26	172	8.01	93.5	0.826	--
Wichita, KS	45,844	88.57	396	8.02	74.4	0.575	--
South	8,980,101	97.94	63,723	7.26+	63.7	0.452	--
South Atlantic	4,668,855	96.31	30,608	6.82-	63.5	0.428	--
Delaware	70,251	99.94	438	6.54	57.1	0.367	--
Wilmington, DE-NJ-MD	58,114	99.65	369	6.67	57.8	0.389	--
Maryland	436,606	99.49	2,521	5.94-	56.8	0.339-	--
Baltimore, MD	244,878	99.90	1,345	5.67-	54.7	0.327-	--
Cumberland, MD-WV	17,051	99.95	113	6.83	89.9	0.560	--
Hagerstown, MD	14,522	99.95	90	6.31	30.8	0.211	--
District of Col.	66,196	99.75	321	4.33-	53.1	0.200-	--
Washington, DC-MD-VA	261,121	99.05	1,500	5.72-	60.4	0.330-	--

See notes at end of table.

Table 3. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Virginia	566,135	99.91	3,678	6.71	62.8	0.417	--
Charlottesville, VA	12,020	99.92	91	7.53	57.0	0.499	--
Danville, VA	15,532	99.99	93	6.29	47.1	0.275	--
Lynchburg, VA	18,110	99.99	104	5.70	42.4	0.223	--
Norfolk, VA	102,601	99.96	620	6.45	74.3	0.493	--
Richmond, VA	85,698	99.98	568	6.65	55.3	0.358	--
Roanoke, VA	30,622	99.98	231	7.10	48.1	0.340	--
West Virginia	244,259	98.98	1,797	7.51	64.4	0.460	--
Charleston, WV	34,215	99.96	254	7.79	63.6	0.472	--
Huntington, WV-KY-OH	40,891	99.95	334	8.27	49.0	0.390	--
Parkersburg, WV-OH	19,888	99.94	179	8.77	74.3	0.628	--
Wheeling, WV-OH	22,016	82.51	169	7.51	86.9	0.546	--
North Carolina	689,138	99.93	4,397	6.73	61.8	0.407	--
Asheville, NC	24,469	99.92	181	7.16	65.2	0.474	--
Burlington, NC	14,505	99.99	81	6.05	39.0	0.236	--
Charlotte, NC	109,337	99.79	730	7.07	52.7	0.384	--
Fayetteville, NC	13,388	99.98	64	5.40	64.1	0.370	--
Greensboro, NC	99,387	99.97	678	7.05	64.5	0.449	--
Hickory, NC	23,392	99.97	157	7.37	117.4	0.801	--
Jacksonville, NC	5,134	99.66	29	6.68	86.2	0.507	--
Raleigh-Durham, NC	56,484	99.86	361	6.45	66.4	0.378	--
Wilmington, NC	12,634	99.97	62	5.26	31.3	0.184	--
South Carolina	329,020	99.44	1,942	6.40-	74.5	0.444	--
Anderson, SC	16,583	99.70	117	7.64	87.6	0.631	--
Charleston, SC	34,246	98.90	199	6.39	49.6	0.274	--
Columbia, SC	35,361	99.98	178	5.40-	69.9	0.356	--
Florence, SC	11,195	99.96	50	4.90	99.7	0.422	--
Greenville, SC	65,893	98.01	441	7.20	78.5	0.544	--
Georgia	561,716	99.71	4,150	7.63+	64.7	0.488	--
Albany, GA	9,292	99.92	73	8.15	41.8	0.361	--
Athens, GA	13,510	99.96	110	8.19	38.4	0.314	--
Atlanta, GA	189,539	99.27	1,518	8.18+	66.7	0.539	--
Augusta, GA-SC	32,938	99.93	217	7.04	89.9	0.587	--
Columbus, GA-AL	22,847	99.96	141	6.59	54.3	0.304	--
Macon, GA	25,929	99.97	170	6.81	52.9	0.394	--
Savannah, GA	25,338	99.94	161	6.70	121.7	0.882	--

See notes at end of table.

Table 3. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Florida	1,705,534	90.97	11,364	6.96	64.1	0.450	--
Bradenton, FL	42,906	99.68	299	7.02	90.4	0.600	--
Daytona Beach, FL	62,616	92.90	458	7.55	73.2	0.560	--
Fort Lauderdale, FL	181,839	81.09	1,281	6.98	53.2	0.380	--
Fort Myers, FL	61,428	99.65	314	6.16	42.5	0.289	--
Fort Pierce, FL	41,198	99.28	194	5.75	79.0	0.467	--
FT. Walton Beach, FL	10,169	99.88	62	7.38	128.2	1.128	--
Gainesville, FL	16,758	99.58	127	8.02	79.0	0.627	--
Jacksonville, FL	80,895	98.22	569	7.31	66.6	0.504	--
Lakeland, FL	55,495	99.56	352	6.98	72.3	0.510	--
Melbourne, FL	46,501	99.72	301	7.84	45.4	0.344	--
Miami-Hialeah, FL	168,502	79.57	1,334	6.95	59.3	0.403	--
Naples, FL	23,433	99.75	127	6.86	62.5	0.422	--
Ocala, FL	31,367	99.50	148	5.99	65.6	0.401	--
Orlando, FL	90,604	98.55	643	7.52	72.6	0.540	--
Panama City, FL	11,817	99.70	52	5.14	89.3	0.408	--
Pensacola, FL	29,972	99.89	209	7.70	50.1	0.419	--
Sarasota, FL	77,895	99.81	506	6.94	56.9	0.403	--
Tallahassee, FL	17,414	97.85	122	7.15	65.7	0.537	--
Tampa, FL	323,951	87.05	2,306	7.06	67.6	0.485	--
West Palm Beach, FL	139,729	85.22	874	6.62	67.3	0.439	--
East South Central	1,726,272	99.80	13,101	7.63+	65.9	0.482	--
Kentucky	422,657	99.70	3,313	7.86+	61.9	0.473	--
Lexington, KY	31,008	98.87	216	6.77	46.7	0.315	--
Louisville, KY-IN	107,485	99.20	791	7.28	64.4	0.470	--
Owensboro, KY	10,319	99.96	87	8.58	25.3	0.204	--
Tennessee	550,327	99.65	4,526	8.36+	65.2	0.526+	--
Chattanooga, TN-GA	50,061	99.97	427	8.65+	83.8	0.715	--
Clarksville, TN-KY	12,541	99.91	109	8.70	44.6	0.390	--
Jackson, TN	10,064	99.95	77	7.07	40.7	0.278	--
Johnson City, TN-VA	55,068	99.97	422	8.06	81.9	0.604	--
Knoxville, TN	70,970	99.96	584	8.56+	62.3	0.529	--
Memphis, TN-AR-MS	88,836	98.06	665	7.34	76.8	0.513	--
Nashville, TN	92,994	99.96	811	8.69+	46.4	0.405	--

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Table 3. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Alabama	463,131	99.97	3,269	7.17	70.3	0.476	--
Anniston, AL	13,124	99.97	81	6.68	54.9	0.350	--
Birmingham, AL	108,546	99.98	788	7.19	75.9	0.506	--
Dothan, AL	12,690	99.94	72	5.86	28.4	0.167	--
Florence, AL	16,687	99.97	108	6.83	72.3	0.517	--
Gadsden, AL	14,295	99.97	111	8.49	57.6	0.493	--
Huntsville, AL	17,137	99.96	131	8.21	117.5	0.925	--
Mobile, AL	50,513	99.96	388	8.17	47.1	0.370	--
Montgomery, AL	29,832	99.97	216	7.11	82.7	0.546	--
Tuscaloosa, AL	13,604	99.99	110	7.96	92.3	0.648	--
Mississippi	290,157	99.98	1,993	6.67	67.0	0.423	--
Biloxi-Gulfport, MS	18,079	99.97	147	8.94	85.9	0.741	--
Jackson, MS	35,305	99.98	217	5.91	83.0	0.486	--
Pascagoula, MS	8,556	99.88	55	7.54	19.2	0.141	--
West South Central	2,584,974	99.74	20,014	7.78+	62.4	0.472	--
Arkansas	321,739	99.96	2,425	7.66+	71.6	0.518	--
Fayetteville, AR	11,803	99.95	91	7.76	132.6	0.832	--
Fort Smith, AR-OK	21,413	99.98	170	8.01	64.0	0.527	--
Little Rock, AR	50,966	99.99	409	8.01	66.5	0.478	--
Pine Bluff, AR	11,012	99.98	55	4.72	48.6	0.245	--
Louisiana	415,968	99.98	2,883	6.83	63.4	0.400	--
Alexandria, LA	13,819	99.96	81	5.60	31.7	0.135-	--
Baton Rouge, LA	39,583	99.97	276	7.23	45.6	0.320	--
Houma-Thibodaux, LA	13,501	100.00	72	5.92	72.8	0.342	--
Lafayette, LA	14,620	99.99	101	6.96	30.6	0.212	--
Lake Charles, LA	16,436	99.98	97	6.45	57.2	0.342	--
Monroe, LA	14,648	99.99	157	10.14	39.1	0.378	--
New Orleans, LA	118,708	99.98	853	7.15	71.2	0.502	--
Shreveport, LA	36,822	99.98	307	7.77	46.1	0.322	--
Oklahoma	378,716	99.02	3,137	8.03+	59.5	0.485	--
Enid, OK	8,215	99.94	57	6.44	44.0	0.332	--
Lawton, OK	8,221	99.99	58	7.56	15.6-	0.132	--
Oklahoma City, OK	88,646	97.45	809	8.76+	66.1	0.588	--
Tulsa, OK	71,032	98.13	595	8.21	68.8	0.561	--

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Texas	1,468,551	99.81	11,569	8.02+	61.1	0.480	--
Abilene, TX	13,100	99.96	135	9.90	59.8	0.652	--
Amarillo, TX	19,063	99.97	163	8.85	42.1	0.396	--
Austin, TX	47,578	99.95	440	9.12+	45.6	0.397	--
Beaumont, TX	42,323	99.98	274	6.76	66.1	0.427	--
Brazoria, TX	12,486	99.78	88	8.08	69.2	0.566	--
Brownsville, TX	20,169	99.86	110	6.11	55.7	0.364	--
Bryan, TX	6,955	99.96	65	9.11	126.6	1.106	--
Corpus Christi, TX	28,417	99.56	217	8.23	58.6	0.496	--
Dallas, TX	172,118	99.95	1,433	8.32+	62.8	0.515	--
El Paso, TX	37,292	99.94	237	6.98	54.0	0.405	--
Fort Worth, TX	97,947	99.96	865	8.95+	66.6	0.581	--
Galveston, TX	19,376	99.94	113	6.37	95.0	0.576	--
Houston, TX	187,992	99.85	1,465	8.21+	57.2	0.447	--
Killeen-Temple, TX	17,182	99.97	169	9.82	74.8	0.696	--
Laredo, TX	8,421	99.99	51	6.02	63.9	0.436	--
Longview, TX	20,547	99.98	152	7.19	73.1	0.473	--
Lubbock, TX	18,957	99.97	164	9.05	83.5	0.730	--
McAllen, TX	27,402	99.82	159	6.69	68.8	0.431	--
Midland, TX	7,362	99.96	48	7.00	0.0	0.000	--
Odessa, TX	9,207	99.99	63	7.94	33.3	0.267	--
San Angelo, TX	11,213	99.99	88	7.85	60.5	0.627	--
San Antonio, TX	107,989	99.28	780	7.33	55.6	0.433	--
Sherman-Denison, TX	14,532	99.99	115	7.68	35.6	0.269	--
Texarkana, TX-AR	15,315	99.99	139	8.90	97.4	0.813	--
Tyler, TX	18,223	99.98	142	8.05	81.7	0.579	--
Victoria, TX	6,871	99.97	36	5.69	55.9	0.311	--
Waco, TX	23,624	99.99	194	7.93	58.2	0.449	--
Wichita Falls, TX	14,462	99.97	135	8.83	98.4	0.797	--
West	4,539,951	93.08	32,114	7.27+	61.3	0.441	--
Mountain	1,200,638	94.36	8,700	7.79+	65.9	0.506+	--
Montana	97,248	99.90	738	7.92	66.6	0.535	--
Billings, MT	12,097	99.88	87	7.55	53.0	0.350	--
Great Falls, MT	9,076	99.91	55	6.31	57.1	0.450	--
Idaho	109,822	99.77	714	6.99	78.8	0.554	--
Boise City, ID	18,471	99.90	121	6.83	73.0	0.506	--
Wyoming	42,408	99.91	298	7.29	61.4	0.447	--
Casper, WY	5,379	99.91	42	8.11	20.0	0.193	--
Cheyenne, WY	6,886	99.96	55	8.33	35.0	0.300	--

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Area of residence	Non-HMD enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As percent of all enrollees	Number	Per 1,000 non-HMD enrollees	Per 1,000 discharges	Per 1,000 non-HMD enrollees	
Colorado	266,663	94.73	2,237	8.33+	64.4	0.526	--
Boulder-Longmont, CO	15,143	97.96	119	7.30	107.3	0.734	--
Colorado Springs, CO	24,899	95.03	225	9.40	58.6	0.561	--
Denver, CO	119,624	94.10	1,112	9.07+	63.7	0.579	--
Fort Collins, CO	15,089	99.71	106	7.01	66.6	0.452	--
Greeley, CO	11,610	99.62	101	8.83	51.9	0.500	--
Pueblo, CO	15,372	94.43	125	8.36	49.1	0.391	--
New Mexico	125,371	92.49	972	8.23+	69.5	0.562	--
Albuquerque, NM	33,783	81.01	253	7.71	76.4	0.562	--
Las Cruces, NM	9,375	99.94	63	7.46	113.4	0.919	--
Santa Fe, NM	8,454	93.66	67	8.30	89.2	0.605	--
Arizona	348,748	91.33	2,449	7.92+	57.0	0.444	--
Phoenix, AZ	187,381	86.74	1,389	8.07+	65.1	0.512	--
Tucson, AZ	70,550	96.06	504	7.72	44.1	0.349	--
Utah	128,579	99.92	787	6.57	82.9	0.530	--
Provo-Orem, UT	16,076	99.93	95	6.56	135.3	0.804	--
Salt Lake City, UT	77,243	99.94	478	6.54	72.9	0.477	--
Nevada	81,799	86.15	505	7.77	63.9	0.488	--
Las Vegas, NV	45,252	82.98	286	8.18	70.9	0.567	--
Reno, NV	19,133	89.17	119	7.35	64.0	0.432	--
Pacific	3,339,313	92.62	23,414	7.09	59.6	0.419	--
Washington	461,706	92.41	3,278	7.18	62.5	0.456	--
Bellingham, WA	13,629	99.51	111	8.00	34.2	0.277	--
Bremerton, WA	15,439	96.59	115	7.72	69.3	0.594	--
Olympia, WA	14,254	90.98	98	6.86	54.9	0.346	--
Richland, WA	12,559	99.85	64	5.95	35.0	0.189	--
Seattle, WA	159,828	86.57	1,246	7.59	64.3	0.489	--
Spokane, WA	41,237	94.51	292	6.80	69.0	0.458	--
Tacoma, WA	50,245	97.24	344	7.01	70.3	0.509	--
Vancouver, WA	17,048	80.32	103	6.26	19.8-	0.120-	--
Yakima, WA	22,738	99.74	165	7.43	74.0	0.604	--
Oregon	303,778	86.84	2,074	6.86	57.8	0.397	--
Eugene, OR	28,947	88.67	161	5.75	65.1	0.386	--
Medford, OR	20,326	99.78	126	6.66	47.5	0.307	--
Portland, OR	99,155	72.79	824	7.45	54.4	0.399	--
Salem, OR	33,249	90.39	221	6.35	60.2	0.387	--

See notes at end of table.

Table 3. Fracture of the neck of femur: Enrollment, short-stay hospital discharges, and post-admission deaths for aged Medicare enrollees and total death rate for the aged population, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Non-HMO enrollment		Discharges		30-day post-admission deaths		Total deaths per 1,000 persons
	Number	As Percent of all enrollees	Number	Per 1,000 non-HMO enrollees	Per 1,000 discharges	Per 1,000 non-HMO enrollees	
California	2,477,248	93.71	17,595	7.14	59.0	0.416	--
Anaheim-Santa Ana, CA	167,171	89.39	1,265	7.20	40.1-	0.290-	--
Bakersfield, CA	44,969	99.76	283	7.12	76.9	0.569	--
Chico, CA	27,102	99.09		7.08	62.0	0.506	--
Fresno, CA	58,425	99.90	428	7.44	60.2	0.415	--
Los Angeles, CA	677,939	91.40	4,921	6.98	55.1	0.378-	--
Merced, CA	13,462	99.86	79	6.50	94.0	0.644	--
Modesto, CA	33,619	98.80	252	7.93	52.7	0.402	--
Oakland, CA	188,258	99.08	1,299	6.90	64.6	0.440	--
Oxnard-Ventura, CA	49,488	93.74	345	7.22	49.0	0.356	--
Redding, CA	17,796	99.73	114	7.47	36.0	0.261	--
Riverside, CA	203,246	90.92	1,542	8.03+	64.0	0.522	--
Sacramento, CA	120,273	91.81	854	7.56	47.4	0.354	--
Salinas, CA	29,131	99.86	190	6.71	99.4	0.693	--
San Diego, CA	205,402	91.35	1,404	7.04	66.9	0.442	--
San Francisco, CA	163,753	89.02	1,233	7.03	67.8	0.481	--
San Jose, CA	105,258	99.50	677	6.46	69.2	0.432	--
Santa Barbara, CA	38,021	99.70	281	7.15	53.9	0.394	--
Santa Cruz, CA	24,640	99.77	180	6.87	48.1	0.291	--
Santa Rosa, CA	44,775	99.49	332	7.48	50.0	0.374	--
Stockton, CA	40,855	91.54	296	7.55	81.2	0.571	--
Vallejo, CA	35,778	98.59	246	7.13	61.3	0.416	--
Visalia, CA	28,811	99.91	188	6.94	41.8	0.282	--
Yuba City, CA	11,835	99.35	83	7.89	83.3	0.743	--
Alaska	16,348	99.78	94	7.48	109.2	0.761	--
Anchorage, AK	5,625	99.75	24	5.90	157.1	0.808	--
Hawaii	80,233	83.64	373	5.53-	61.6	0.307	--
Honolulu, HI	57,680	83.31	283	5.87	62.8	0.327	--

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (-) indicates the rate is significantly greater or less than the U.S. rate ($p < .01$).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy; Data from the Medicare Statistical System. Population death rates derived from National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Medicare discharges categorized as high-risk or low-risk conditions

The Health Care Financing Administration has released hospital-specific mortality rates for the United States for each year beginning in 1986 (Health Care Financing Administration, 1987, 1988). The data released in these publications are rates of 30-day post-admission mortality for all discharges combined and for 16 individual diagnostic categories. The categories are divided into nine high-risk and seven low-risk groups based on observed mortality. The data shown are the actual mortality rates for a given hospital as well as a 95-percent confidence interval range of expected mortality based on a multivariate model that includes basic demographic characteristics and important comorbid conditions.

In this section, 1986 discharge and mortality rates for 15 of those diagnostic categories are presented by demographic characteristics and area. (The other high-risk category, stroke, is discussed separately in this volume.) There are a number of important differences between the hospital-specific mortality data and this data compilation. First, population-based discharge rates are presented in this volume. When data are generated on a hospital-specific basis, the population at risk cannot be readily determined so population-based rates cannot be calculated. For example, a specific hospital in a large urban area could have a large volume of discharges for a particular diagnosis, yet those events might represent a low hospitalization rate in relation to the

potential patient population. In contrast, another hospital's discharges for the same diagnosis, despite a smaller volume of cases, could represent a higher rate of hospitalization because of a relatively small potential patient population. The discharge rate (number of discharges per 1,000 Medicare enrollees residing in an area) provides a context in which to view other data, such as the mortality rates. The extent to which area practice patterns are similar to or different from regional and national averages can be gauged from discharge rates.

Second, although the 30-day post-admission mortality data provided on a hospital-specific basis are adjusted for age and sex, age- and sex-specific rates are not shown; that is, the effect of age and sex on mortality is incorporated in a single rate for each diagnostic category. In this publication, however, the basic mortality rates for a number of demographic subgroups are presented for the Nation as a whole.

A third difference is the inclusion of 30-day post-admission mortality information in this publication on an area basis. In the publication of hospital-specific mortality rates, it is not shown how rates vary among areas of the country. The user can observe how many hospitals in a particular city or State fall above or below the predicted range of mortality, but it is difficult to ascertain whether the city or State as a whole is above or below national averages. In this publication, mortality rates are presented for U.S. census regions, divisions, and States, as well as for individual metropolitan statistical

areas (MSAs) and for the combined rural counties within a State.

A fourth difference is the inclusion in this volume of population-based mortality rates per 1,000 persons, derived from the national death certificate files maintained by the National Center for Health Statistics and from population counts of the U.S. Bureau of the Census. This volume includes in the same table statistics for the discharge rate, 30-day post-admission deaths per 1,000 discharges and per 1,000 enrollees, and the population-based death rate.

Finally, the mortality rates calculated in the hospital-specific mortality data release are based on the last discharge for any person within the calendar year. Previous hospitalizations for which a patient survived beyond 30 days are excluded from the base of the rate. Thus, the hospital-level statistics include all deaths but not all discharges.

Although it is believed that this procedure does not bias the relative comparison across hospitals, the actual probability of death for a random discharge is not given. In contrast, the rates in this volume are based on all discharges during the year and thus represent the actual 30-day post-admission mortality risk following hospitalization.

In general, the rates presented here on an areawide basis can serve as useful adjuncts to the data included in the hospital-specific tables. The intent of this compilation is to provide basic descriptive information on discharge rates and relative mortality that can be used to determine how utilization

and outcomes vary by demographic characteristics and geographic areas.

In Tables 1 through 5, the discharge rate per 1,000 enrollees, the 30-day post-admission death rate per 1,000 discharges, and total deaths per 1,000 persons are summarized for the 15 high-risk and low-risk diagnostic categories by age, sex, race, and geographic area. Together, these 15 categories account for about 60 percent of discharges (199.36 discharges per 1,000 enrollees out of 327.09) for Medicare enrollees 65 years of age or over and about 63 percent of all deaths in the aged population (32.10 deaths per 1,000 persons out of 51.02).

High-risk and low-risk diagnostic categories are grouped separately in these tables. The discharge rates per 1,000 enrollees were generally higher for the low-risk conditions than for the high-risk conditions.

As shown in the tables, there are notable differences in the risk of death within 30 days of admission between high-risk and low-risk conditions. Among the high-risk categories, the 30-day post-admission death rates for 1986 ranged from a low of 145.9 deaths per 1,000 discharges (about 15 percent) for severe chronic cardiovascular disease to a high of 335.3 deaths per 1,000 discharges (about 34 percent) for renal

disease. In contrast, among the low-risk categories, mortality ranged from 5.5 deaths per 1,000 discharges (about one-half of 1 percent) for gynecological disease to 27.7 deaths per 1,000 discharges (about 3 percent) for circulatory disease.

As shown in these tables, population death rates (deaths per 1,000 persons) were highest for severe acute cardiovascular disease (8.89 per 1,000 persons), low-risk circulatory disease (8.44 per 1,000 persons), and cancer (6.55 per 1,000 persons).

The data are summarized by age in Table 1. Discharges per 1,000 enrollees increased with age, with the exception of cancer (high risk), circulatory disease (low

Table 1. Short-stay hospital discharges and post-admission deaths per 1,000 discharges for aged Medicare enrollees and total deaths per 1,000 aged persons for selected high-risk and low-risk diagnostic categories, by age: United States, 1986

Diagnostic category	Discharges per 1,000 non-HMO enrollees					30-day post-admission deaths per 1,000 discharges					Total deaths per 1,000 persons				
	All ages		65-74 years		75-84 years		All ages		65-74 years		All ages		65-74 years		75-84 years or over
	ages	years	years	or over	years	or over	ages	years	years	or over	ages	years	years	or over	85 years or over
All diagnostic categories	327.09	263.83	400.62	499.05	294.49	—	79.6	56.8	87.3	137.6	51.02	28.01	63.48	153.98	—
Subtotal	199.36	163.56	241.95	294.49	—	—	—	—	—	—	32.10	18.18	39.59	94.69	—
High-risk conditions															
Severe chronic cardiovascular disease	18.72	11.61	25.81	41.80	114.0	147.9	145.9	114.0	147.9	198.9	1.75	0.78	2.12	6.62	—
Pulmonary disease	17.83	10.70	23.43	45.84	123.0	183.2	180.3	123.0	183.2	261.7	2.48	0.79	2.97	11.51	—
Cancer	13.20	13.09	14.37	17.10	256.8	278.9	256.8	235.2	278.9	336.1	6.55	5.64	7.75	8.33	—
Severe acute cardiovascular disease	13.10	10.87	16.35	17.10	269.2	305.5	269.2	209.1	305.5	404.1	8.89	5.28	11.65	22.39	—
Metabolic and electrolyte disorders	5.81	3.02	7.85	17.25	171.8	164.5	171.8	154.1	164.5	202.1	0.31	0.13	0.34	1.30	—
Infectious disease	3.59	2.07	4.85	9.27	263.7	212.9	263.7	212.9	264.0	336.5	0.57	0.28	0.72	1.90	—
Gastrointestinal catastrophies	2.47	2.14	2.83	3.43	246.3	262.3	246.3	209.3	262.3	352.6	0.67	0.53	0.76	1.19	—
Renal disease	1.36	0.81	1.85	3.30	335.3	344.5	335.3	260.3	344.5	438.1	0.56	0.24	0.73	2.01	—
Severe injury	0.55	0.34	0.76	1.19	216.7	221.1	216.7	173.0	221.1	289.7	—	—	—	—	—
Low-risk conditions															
Circulatory disease	43.21	38.37	51.04	49.34	20.3	31.9	27.7	20.3	31.9	50.8	8.44	3.56	10.15	33.39	—
Cutaneous and musculoskeletal conditions	27.24	22.81	32.34	39.44	11.5	23.1	20.5	11.5	23.1	46.6	0.85	0.52	1.04	2.32	—
Gastrointestinal disease	21.51	18.61	25.41	27.69	15.6	31.6	26.8	15.6	31.6	60.7	0.33	0.14	0.41	1.20	—
Urologic disease	12.62	11.88	14.28	12.08	8.0	22.3	17.2	8.0	22.3	55.8	0.13	0.05	0.17	0.54	—
Neuropsychiatric and sensory disease	14.18	12.47	17.36	15.01	13.4	22.8	19.4	13.4	22.8	38.2	0.57	0.24	0.77	1.97	—
Gynecological disease (female only)	3.97	4.77	3.42	1.54	3.1	8.3	5.5	3.1	8.3	24.7	0.00	0.00	0.01	0.02	—

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex.

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

risk), urologic disease (low risk), neuropsychiatric and sensory disease (low risk), and gynecological disease (low risk). In the high-risk categories, the increases with advancing age tended to be quite large. In six of the high-risk categories, persons aged 85 or over had discharge rates that were three to five times as great as rates for persons aged 65–74 years. For low-risk categories, the age effect was much less pronounced.

The 30-day post-admission mortality rate increased with age in all conditions. The age effect was less for high-risk than low-risk

conditions. Only one high-risk category, pulmonary disease, had a mortality rate among persons aged 85 or over that was twice as great as the rate for persons aged 65–74. In the low-risk categories, for which mortality rates are low, age had a greater effect. For example, persons aged 85 or over had almost seven times the mortality rate for urologic disease than persons 65–74 had (55.8 and 8.0 deaths per 1,000 discharges, respectively). Population death rates increased with age for all 15 conditions.

In Table 2, the data are shown by sex. In 11 of the 15 categories, discharge rates were

higher for men than for women. The greatest difference was for urologic disease, which had a rate for men (25.82 per 1,000 enrollees) that was almost 6.7 times that for women (3.86 per 1,000 enrollees). In five high-risk categories—pulmonary disease, cancer, severe acute cardiovascular disease, renal disease, and severe injury—the discharge rate for women was about one-third less than that for men. In three categories—metabolic and electrolyte disorders (high risk), cutaneous and musculoskeletal conditions (low risk), and neuropsychiatric and sensory disease (low risk)—the discharge rates were greater for women than for men.

Women generally had lower 30-day post-admission mortality rates than did men. A notable exception was urologic disease (low risk), for which mortality among women was 85 percent higher than mortality among men. Population death rates per 1,000 persons were lower for women than men for all categories except metabolic and electrolyte disorders (high risk) and gastrointestinal disease (low risk).

Table 3 contains data by race. With regard to heart and circulatory conditions, black persons were more likely than white persons to be hospitalized for severe chronic cardiovascular disease (high risk), but they were less likely to be hospitalized for severe acute cardiovascular disease (high risk) or for circulatory disease (low risk). Categories in which black persons had notably higher discharge rates include metabolic and electrolyte disorders (high risk), infectious disease (high risk), and renal disease (high risk).

Generally, the 30-day post-admission mortality rates for white persons and black persons tended to be similar, with a few

Table 2. Short-stay hospital discharges and post-admission deaths per 1,000 discharges for aged Medicare enrollees and total deaths per 1,000 aged persons for selected high-risk and low-risk diagnostic categories, by sex: United States, 1986

Diagnostic category	Discharges per 1,000 non-HMO enrollees			30-day post-admission deaths per 1,000 discharges				Total deaths per 1,000 persons		
	Both sexes		Men	Both sexes		Men	Women	Both sexes		Women
	Both sexes	Men		Both sexes	Men			Both sexes	Men	
All diagnostic categories	327.09	354.81	308.69	79.6	89.3	72.3	—	51.02	59.97	44.92
Subtotal	199.36	219.75	183.19	—	—	—	—	32.10	38.64	27.64
High-risk conditions										
Severe chronic cardiovascular disease	18.72	20.40	17.61	145.9	157.6	136.9	1.75	1.89	1.89	1.66
Pulmonary disease	17.83	22.12	14.99	180.3	194.9	166.0	2.48	2.99	2.99	2.14
Cancer	13.20	16.81	10.81	256.8	275.9	237.1	6.55	8.88	8.88	4.97
Severe acute cardiovascular disease	13.10	16.81	10.64	269.2	260.9	278.0	8.89	11.10	7.38	7.38
Metabolic and electrolyte disorders	5.81	5.12	6.27	171.8	224.7	143.1	0.31	0.29	0.32	0.32
Infectious disease	3.59	3.79	3.45	263.7	271.1	258.3	0.57	0.62	0.53	0.53
Gastrointestinal catastrophies	2.47	2.69	2.32	246.3	249.9	243.6	0.67	0.79	0.58	0.58
Renal disease	1.36	1.68	1.15	335.3	352.3	318.8	0.56	0.67	0.48	0.48
Severe injury	0.55	0.69	0.45	216.7	227.0	206.1	—	—	—	—
Low-risk conditions										
Circulatory disease	43.21	46.73	40.88	27.7	31.7	24.7	8.44	9.23	7.91	7.91
Cutaneous and musculoskeletal conditions	27.24	21.03	31.36	20.5	27.0	17.5	0.85	1.01	0.74	0.74
Gastrointestinal disease	21.51	22.80	20.64	26.8	27.7	26.1	0.33	0.32	0.33	0.33
Urologic disease	12.62	25.82	3.86	17.2	14.9	27.5	0.13	0.18	0.10	0.10
Neuropsychiatric and sensory disease	14.18	13.26	14.79	19.4	28.1	14.2	0.57	0.67	0.50	0.50
Gynecological disease (female only)	3.97	—	3.97	5.5	—	5.5	0.00	0.00	0.00	0.00

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex.

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Table 3. Short-stay hospital discharges and post-admission deaths per 1,000 discharges for aged Medicare enrollees and total deaths per 1,000 aged persons for selected high-risk and low-risk diagnostic categories, by race: United States, 1986

Diagnostic category	Discharges per 1,000 non-HMO enrollees			30-day post-admission deaths per 1,000 discharges			Total deaths per 1,000 persons		
	persons ¹			persons ¹			persons ¹		
	All	White	Black	All	White	Black	All	White	Black
All diagnostic categories	327.09	328.74	329.57	79.6	79.6	84.9	51.02	51.00	56.13
Subtotal	199.36	201.72	185.79	—	—	—	32.10	32.24	33.76
High-risk conditions									
Severe chronic cardiovascular disease	18.72	18.53	22.42	145.9	151.1	105.5	1.75	1.73	2.17
Pulmonary disease	17.83	18.06	16.23	180.3	180.8	186.1	2.48	2.51	2.32
Cancer	13.20	13.14	14.60	256.8	258.0	256.2	6.55	6.53	7.38
Severe acute cardiovascular disease	13.10	13.44	10.16	269.2	271.2	251.5	8.89	9.00	8.65
Metabolic and electrolyte disorders	5.81	5.46	10.41	171.8	171.6	178.3	0.31	0.28	0.58
Infectious disease	3.59	3.47	5.22	263.7	259.4	304.0	0.57	0.53	1.01
Gastrointestinal catastrophies	2.47	2.51	2.12	246.3	247.0	247.1	0.67	0.68	0.62
Renal disease	1.36	1.23	2.95	335.3	351.6	267.6	0.56	0.52	1.05
Severe injury	0.55	0.55	0.53	216.7	218.7	179.4	—	—	—
Low-risk conditions									
Circulatory disease	43.21	44.05	37.05	27.7	28.0	25.8	8.44	8.57	8.03
Cutaneous and musculoskeletal conditions	27.24	28.13	18.65	20.5	20.6	21.3	0.85	0.84	0.97
Gastrointestinal disease	21.51	21.97	17.54	26.8	26.7	31.1	0.33	0.33	0.30
Urologic disease	12.62	12.73	12.00	17.2	17.0	22.1	0.13	0.13	0.21
Neuropsychiatric and sensory disease	14.18	14.33	13.58	19.4	19.2	23.4	0.57	0.59	0.46
Gynecological disease (female only)	3.97	4.12	2.33	5.5	5.3	11.8	0.00	0.00	0.01

¹ Includes persons of other races in addition to white and black persons.

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex.

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

exceptions. Population death rates (total deaths per 1,000 persons) were notably higher for black persons than for white persons in several diagnostic categories, including severe chronic cardiovascular disease, infectious disease, and renal disease. White persons has a substantially higher population death rate for neuropsychiatric and sensory disease.

These data are shown by metropolitan and rural areas in Table 4. Discharge rates were higher for residents of rural areas than

for residents of urban areas for all conditions except the high-risk categories of cancer, infectious disease, and gastrointestinal catastrophies and the low-risk category of neuropsychiatric and sensory disease.

The 30-day post-admission deaths per 1,000 discharges were similar for residents of rural and urban areas. Population-based death rates were higher in rural areas than urban areas for severe chronic cardiovascular disease and severe acute cardiovascular

disease (23 percent and 17 percent higher, respectively), but for circulatory disease (low risk), rural rates were 22 percent lower than urban rates.

In Table 5, data are shown by region. The discharge rates were lowest for residents in the West for all categories combined and for most of the individual categories.

Exceptions were gastrointestinal catastrophies (high risk), severe injury (high risk), cutaneous and musculoskeletal conditions (low risk), and gynecological disease (low risk). The South tended to have the highest discharge rates. The differences between the lowest and highest discharge rate by region ranged from 6.2 percent for gastrointestinal catastrophies (2.41

discharges per 1,000 enrollees in the North Central Region versus 2.56 in the Northeast and West) to 43.8 percent for gastrointestinal disease (16.92 discharges per 1,000 enrollees in the West versus 24.33 in the South).

Neither the 30-day post-admission deaths per 1,000 discharges nor the population death rates had consistent regional differences. No single region had the majority of highest or lowest 30-day post-admission death rates or population death rates. For 30-day post-admission deaths, the low-risk conditions varied more across regions than the high-risk conditions did. The variation ranged from a 3.7-percent difference between lowest and highest rates for circulatory disease (27.4 post-admission deaths in the Northeast versus 28.4 in the West) to a 43.1-percent difference for neuropsychiatric and sensory disease (16.0 post-admission deaths per 1,000 discharges in the Northeast versus 22.9 in the West). The West Region was notably below the national average in population-based

Table 4. Short-stay hospital discharges and post-admission deaths per 1,000 discharges for aged Medicare enrollees and total deaths per 1,000 aged persons for selected high-risk and low-risk diagnostic categories, by metropolitan or rural counties: United States, 1986

Diagnostic category	Discharges per 1,000 non-HMO enrollees				30-day post-admission deaths per 1,000 discharges				Total deaths per 1,000 persons	
	United States		Metro-politan		United States		Metro-politan		Urban	Rural
	States	1986	States	1986	States	1986	States	1986		
All diagnostic categories	327.09	316.97	353.58	218.51	79.6	81.1	76.3	51.02	51.34	50.73
Subtotal	199.35	192.12	218.51		—	—	—	32.30	32.45	31.81
High-risk conditions										
Severe chronic cardiovascular disease	18.72	18.38	19.63	145.9	145.9	144.8	148.6	1.75	1.66	2.05
Pulmonary disease	17.84	16.21	22.05	180.3	180.3	187.9	165.7	2.50	2.49	2.51
Cancer	13.21	13.39	12.73	256.8	256.8	255.8	259.6	6.58	6.70	6.25
Severe acute cardiovascular disease	13.11	12.54	14.57	269.3	269.3	269.7	268.2	8.92	8.53	9.98
Metabolic and electrolyte disorders	5.81	5.62	6.33	171.8	179.1	179.1	155.0	0.31	0.31	0.30
Infectious disease	3.59	3.64	3.47	263.7	268.7	268.7	250.3	0.57	0.61	0.48
Gastrointestinal catastrophies	2.48	2.51	2.37	246.3	246.2	246.2	246.7	0.67	0.69	0.62
Renal disease	1.37	1.27	1.62	335.3	324.7	324.7	356.4	0.56	0.55	0.60
Severe injury	0.55	0.55	0.55	216.7	223.4	223.4	199.1	—	—	—
Low-risk conditions										
Circulatory disease	43.22	41.35	48.13	27.7	27.7	28.0	27.1	8.48	9.02	7.03
Cutaneous and musculoskeletal conditions	27.24	26.35	29.60	20.5	20.5	21.0	19.1	0.86	0.82	0.96
Gastrointestinal disease	21.51	19.99	25.49	26.8	26.8	27.3	25.6	0.33	0.33	0.34
Urologic disease	12.62	12.09	13.97	17.2	17.2	16.7	18.2	0.14	0.13	0.16
Neuropsychiatric and sensory disease	14.18	14.49	13.37	19.4	19.4	19.1	20.1	0.58	0.60	0.52
Gynecological disease (female only)	3.98	3.74	4.63	5.5	5.5	5.3	5.7	0.01	0.01	0.01

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex.

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

mortality (total deaths per 1,000 persons) for all conditions combined. Particularly noteworthy was the population death rate for severe acute cardiovascular disease, for which mortality was 28 percent lower in the West than in the next lowest region (North Central).

It has been hypothesized that areas with high discharge rates may have a less severe case mix and, conversely, areas with low discharge rates may have a more severe case mix. If this hypothesis holds, there should be a negative correlation between discharge

rates and hospital-related mortality (i.e., 30-day post-admission deaths per 1,000 discharges). Additionally, it is reasonable to hypothesize that discharge rates should reflect relative need for care. Thus, one would expect that hospitalization for a given condition, such as heart disease, should be higher in areas with higher population death rates from heart disease.

The relationship between volume of hospitalization and mortality rates is shown in Table 6. The correlations are shown between the number of discharges per 1,000

enrollees and both the 30-day post-admission deaths per 1,000 discharges and the total deaths per 1,000 persons. The correlations were calculated using rates for MSAs and rural areas. Both hypotheses are supported somewhat by the data. In 8 of the 15 conditions, the correlation between discharges per 1,000 enrollees and 30-day post-admission deaths per 1,000 discharges was negative and statistically significant. In two cases, the correlation coefficient was positive, although not statistically significant.

It can also be seen from Table 6 that discharge rates are positively related to overall death rates. In eight of the nine high-risk conditions, there was a statistically significant and positive correlation between discharges per 1,000 enrollees and the overall death rate per 1,000 persons for that condition. The fact that the correlations for low-risk conditions were not significant is also important. Death (either hospital related or on a population basis) is rarely caused by these conditions. Therefore, it is unlikely that overall mortality would serve as a useful measure of hospitalization need for patients with these conditions.

In summary, the tables in this volume on the 15 high- and low-risk conditions contain basic discharge rates and mortality rates for those conditions included in the hospital-specific mortality data release (Health Care Financing Administration, 1987, 1988). It is expected that the display of information by age, sex, race, and geographic area can serve as the basis for generating a variety of hypotheses about the use and outcomes of care.

Table 5. Short-stay hospital discharges and post-admission deaths per 1,000 discharges for aged Medicare enrollees and total deaths per 1,000 aged persons for selected high-risk and low-risk diagnostic categories, by census region: United States, 1986

Diagnostic category	Discharges per 1,000 non-HMO enrollees					30-day post-admission deaths per 1,000 discharges					Total deaths per 1,000 persons		
	North-east	North-Central	South	West		North-east	North-Central	South	West		North-east	North-Central	South
All diagnostic categories	315.00	333.07	348.51	292.36		80.9	79.5	78.7	80.2	53.18	51.86	51.17	47.59
High-risk conditions													
Severe chronic cardiovascular disease	19.61 +	19.71 +	18.91	15.59 –	140.9 –	150.1 +	147.3	143.1	143.1	1.54 –	1.89 +	2.01 +	1.42 –
Pulmonary disease	15.69 –	18.04	20.31 +	15.65 –	182.5	178.2	177.8	187.3 +	2.68 +	2.48	2.37 –	2.52	
Cancer	14.34 +	13.00 –	13.44 +	11.52 –	251.6 –	258.3	252.4 –	273.2 +	6.82 +	6.51	6.60	6.32 –	
Severe acute cardiovascular disease	13.58 +	13.49 +	13.35 +	11.39 –	259.1 –	275.8 +	272.4	266.8	9.73 +	9.21 +	9.37 +	6.63 –	
Metabolic and electrolyte disorders	5.31 –	5.82	6.62 +	4.92 –	182.0 +	165.9 –	170.2	171.4	0.31	0.32	0.32	0.26 –	
Infectious disease	3.36 –	3.66	3.90 +	3.20 –	271.6	251.3 –	271.4 +	256.1	0.74 +	0.52 –	0.63 +	0.34 –	
Gastrointestinal catastrophies	2.56	2.41	2.42	2.56	243.7	251.5	243.0	248.6	0.72 +	0.65	0.64 –	0.69	
Renal disease	1.28 –	1.37	1.54 +	1.12 –	317.4 –	344.2	339.7	334.1	0.63 +	0.58	0.61 +	0.36 –	
Severe injury	0.50 –	0.55	0.59 +	0.55	224.6	213.1	208.1	230.0	—	—	—	—	
Low-risk conditions													
Circulatory disease	40.95 –	43.58 +	47.55 +	37.22 –	27.4	27.9	27.5	28.4	10.22 +	9.01 +	6.93 –	8.32 –	
Cutaneous and musculoskeletal conditions	25.14 –	29.50 +	27.25	26.69 –	20.7	20.0	20.5	20.8	0.80 –	0.84	0.93 +	0.83	
Gastrointestinal disease	20.07 –	22.17 +	24.33 +	16.92 –	26.7	27.0	25.9	28.9 +	0.34	0.32	0.33	0.35	
Urologic disease	11.37 –	12.82 +	14.20 +	10.94 –	15.3 –	16.8	18.5 +	16.9	0.11 –	0.13	0.16 +	0.14	
Neuropsychiatric and sensory disease	16.39 +	14.81 +	13.53 –	11.45 –	16.0 –	19.8	20.4	22.9 +	0.51 –	0.58	0.55 –	0.69 +	
Gynecological disease (female only)	3.30 –	4.10	4.29 +	4.13	5.2	5.7	5.9	4.5	0.01	0.01	0.01	0.02 +	

NOTES: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included in Medicare data. All rates are indirectly standardized for age and sex. A (+) or (–) indicates that the rate is significantly greater or less than the U.S. rate ($p < .01$).

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

References

- Health Care Financing Administration: *Medicare Hospital Mortality Information, 1986*. HCFA Pub. No. 01-002. Health Standards and Quality Bureau. Washington. U.S. Government Printing Office, 1987.
- Health Care Financing Administration: *Medicare Hospital Mortality Information, 1987*. HCFA Pub. Nos. 00640-00646. Health Standards and Quality Bureau. Washington. U.S. Government Printing Office, 1988.

Table 6. Correlations between short-stay hospital discharges per 1,000 aged Medicare enrollees and death rates for aged persons, by diagnostic category: United States, 1986

Diagnostic category	Correlation between discharge rate and:	
	30-day post-admission deaths per 1,000 discharges	Total deaths per 1,000 aged persons
High-risk conditions		
Severe chronic cardiovascular disease	–0.10	10.34
Pulmonary disease	1 –0.17	10.22
Cancer	1 –0.26	10.48
Severe acute cardiovascular disease	1 –0.14	10.51
Metabolic and electrolyte disorders	–0.08	10.23
Infectious disease	1 –0.11	10.34
Gastrointestinal catastrophies	1 –0.15	10.41
Renal disease	–0.03	10.43
Severe injury	–0.08	–0.11
Low-risk conditions		
Circulatory disease	1 –0.25	0.03
Cutaneous and musculoskeletal conditions	1 –0.18	0.05
Gastrointestinal disease	1 –0.21	0.05
Urologic disease	0.10	0.13
Neuropsychiatric and sensory disease	1 –0.19	0.09
Gynecological disease (female only)	–0.07	–0.02

¹ Correlation is significant at the $p < .01$ level.

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations are included in Medicare data.

SOURCES: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System. Population death rates derived from Public Health Service, National Center for Health Statistics (deaths) and U.S. Bureau of the Census (population).

Appendix A. Statistical note

Reliability of estimates and testing for significant differences

Introduction

In this compilation of data, diagnostic- and procedure-specific discharge and mortality rates are shown, a large number of which are for relatively small areas. As a result, the numbers of discharges, deaths, and enrollees used in the numerators and denominators to calculate the rates can be quite small. Small numbers in the numerator, denominator, or both increase the likelihood that unusually high or low rates will occur merely by chance.

The observed rates are true rates in the sense that they are based on 100 percent of the 1986 enrollees and discharges. That is, they are not estimated from a sample and, thus, are not subject to sampling error in the usual sense. Nevertheless, the rates are random variables, and each observed value is one of many possible values that might have occurred for reasons that can only be attributed to chance. Thus, an unusually high 1986 death rate, for example, may be a chance aberration and not indicative of what the rate in that area would be over a period of years. Variation over time will be discussed later in this section.

Two aids are provided to assist the user in identifying rates that may deviate to an important degree from the norm with small probability that the deviation results from

chance. The first aid is a presentation of approximate standard error formulas and tables that will allow users to assess the reliability of any given rate. The second aid involves testing each area rate against the U.S. rate and annotating area rates that are significantly different. With both aids, the rates are treated as though they are estimates based on a sample of enrollees or discharges.

Standard error tables and formulas

Standard errors for 30-day post-admission deaths per 1,000 discharges, 30-day post-admission deaths per 1,000 enrollees, and total deaths per 1,000 enrollees are shown in Table A-1. The standard error is a function of both the magnitude of the rate and the magnitude of the number of discharges or enrollees in the base of the rate. For a given base, small rates will have smaller absolute standard errors but larger relative standard errors than large rates. The absolute standard error is shown in Table A-1. The relative standard error is obtained by dividing the absolute standard error by the rate. The degree of reliability required of an estimate depends on how the estimation is used. However, we recommend caution in using estimates with relative standard errors of more than 25 or 30 percent.

Linear interpolation should provide a reasonable approximation of standard errors for rates and/or bases not shown in Table A-1. If more accuracy is desired, the

following formula can be used to calculate the absolute standard error:

$$SE = \sqrt{R(1,000 - R)/N},$$

where R is the rate for which the standard error is desired and N is the number of discharges or enrollees in the base of the rate.

In Table A-2, approximate standard errors for discharges per 1,000 enrollees are given. The table can be read and interpreted similarly to Table A-1. However, to reduce the number of tables and different formulas needed, the formula used to calculate these standard errors contains two approximations, which means that applying them to specific estimates also results in approximate standard errors. The formula and the approximations are described here. Hansen, Hurwitz, and Madow (1953) give a detailed explanation of these approximations

$$SE = \sqrt{R^2(0.4502 + Q)/PN},$$

where R = the rate for which the standard error is desired; 0.4502 = the coefficient of variation (CV) of discharges for persons with one or more discharges (the first approximation); N = the number of enrollees in the base of the rate; P = the proportion of enrollees with at least one discharge (the second approximation); and $Q = 1 - P$.

The CV was calculated for all 1986 discharges in the United States regardless of diagnosis or procedure. This is an approximation because different conditions and/or areas are likely to be associated with different patterns of multiple hospitalizations and are, thus, likely to have

different CVs. However, to keep the table of standard errors simple, it was assumed that each condition would have a distribution of hospitalizations similar to the distribution for all conditions. P is an approximation of the proportion of enrollees with at least one discharge and is derived by estimating the number of persons with at least one discharge by dividing the number of discharges by the average number of discharges per enrollee (1.55) for all conditions and then dividing this result by the number of enrollees in the base of the rate. P is an approximation because different conditions and areas are likely to have average numbers of discharges per enrollee different from 1.55.

The extent of error introduced by these approximations is unknown. The user is therefore cautioned to treat the formula and tabulated values as approximations of the standard errors for specific rates.

Standard errors and time-dependent variation

Standard errors are usually interpreted as measures of sampling error. However, when dealing with 100-percent data, as in this compilation, the standard error can be viewed as a measure of the variation in the many possible values the rates might have taken under circumstances that can only be attributed to chance. To the extent that the rates are generated in a temporally stable environment, the standard error could also be used as a measure of the expected variation in rates from year to year.

However, some temporal sources of variation are not reflected in the standard error when it is based on only 1 year of data. Periodic influenza epidemics are an example. Also,

the standard error, as calculated here, will not adequately reflect variations resulting from trends, such as a declining death rate.

Comparison of area rates with U.S. rates

Area rates shown in Tables 2 and 3 for totals and for each of the 26 diagnostic categories have been annotated to show when the difference between the area rate and the U.S. rate is significant at the .01 level. (A significance level of .01 means that, if samples of the same size are repeatedly drawn from two populations with identical rates and the significance test for each sample is performed, then a significant difference will be incorrectly declared in 1 out of every 100 samples.) Rates with a minus sign are significantly lower than the U.S. rate, and rates with a plus sign are significantly higher than the U.S. rate. The intent of this annotation is to highlight for the user rates that may be unusually high or low while taking into account the element of chance. Rates without a sign could also be unusually high or low, but the lack of a sign is intended to serve as a warning of a high standard error.

For each comparison, a normal theory test for the difference between two rates with a critical value of 2.575 was used. This approach means that for every 100 comparisons made, one erroneously declared significant difference can be expected (a type I error). Given the thousands of comparisons made in this data compilation, one can expect that many such errors have been made. On the other hand, more conservative alternative approaches, such as the Bonferroni multiple comparison test, would place greater overall control on the

type I error at the expense of decreasing the power to detect differences that may, in fact, be real (a type II error). The compromise between committing the two types of errors has been to use a significance level of .01 instead of the usual .05. It was assumed that this would be appropriate for its intended purpose as a screening device to identify rates that may be unusually high or low for reasons other than chance variation.

The following formula was used to carry out the tests and may be employed by users for any other comparisons between two rates:

$$z = (R_1 - R_2) / \sqrt{SE_1^2 + SE_2^2},$$

where R_1 and R_2 are the two rates being compared, and SE_1 and SE_2 are their respective standard errors, as defined earlier in this section. If z exceeded 2.575 (or was less than -2.575), then the rate being tested was annotated. This formula assumes that any covariance resulting from the fact that metropolitan statistical areas (MSAs) and rural areas are subareas of the United States is negligible.

Description of boxplots

The boxplots presented in this report are a graphical representation of the distribution of rates across MSAs and rural areas.

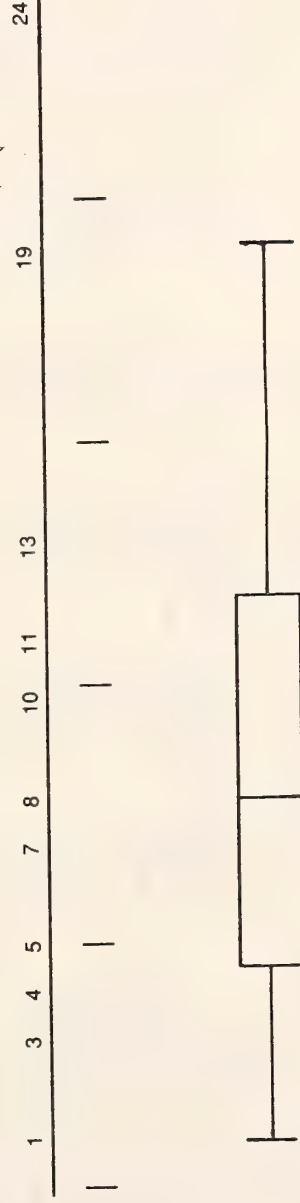
Boxplots enable a reader to readily grasp the geographic variation in the rate being examined, to compare the median and spread of a given rate across census divisions, and to identify outlying areas. Each graph has 10 boxplots, 1 for the United States (excluding outlying territories) and 1 for each of the 9 census divisions. The U.S. boxplot is derived from the data for 365 MSAs and rural areas. The number of areas comprising the division boxplots is shown in Table A-3.

The length of the rectangular (or box) portion of the boxplot is approximately the interquartile range. It extends from about the 25th percentile (the first quartile) to the 75th percentile (the third quartile). (The actual calculations made for boxplots are

similar to, but not identical to, the calculations made to find the quartiles. Thus, the terms quartile and interquartile range are only approximate. Hoaglin, Mosteller, and Tukey (1983) was used extensively as a reference in creating and interpreting the boxplots for this data compilation.) The vertical line that is usually located near the center of the box is the median value. The horizontal lines extending from each end of the rectangle are called "whiskers." Some notation will be useful to show how their length is determined. Let d equal the third quartile minus the first quartile, i.e., the length of the box. Then the left whisker extends from the left end of the box to the last point that is not less than the first quartile minus 1.5 times d . The right whisker extends from the right side of the box to the last point that does not exceed the third quartile plus 1.5 times d . Short vertical lines simply emphasize the terminal points of both whiskers. Values

falling beyond the whiskers are shown as individual points. In Figure A-1, 11 hypothetical data points (1,3,4,5,7,8,10,11,13,19,24), ranging from 1 to 24, are used to illustrate these calculations. The median is at location $(11 + 1)/2 = 6$, or the value of the sixth observation from either end. This value is 8. The location of the ends of the box is calculated from the median location as follows: $(6 + 1)/2 = 3.5$ observations in from either end. Thus, the left end of the box is in the middle of the third and fourth values, which, with interpolation, is found to be 4.5. The right end of the box is located 3.5 observations from the upper extreme, which falls at the value 12. To find the length of the whiskers, first calculate $1.5d$, i.e., $1.5(12 - 4.5) = 11.25$. Because $4.5 - 11.25$ is negative, the left whisker extends to the smallest value, which is 1. For the right side, $12 + 11.25 = 23.25$. The last observation not exceeding 23.25 has a value of 19, which is where the right whisker ends.

Figure A-1. Example of boxplots:



The highest value, 24, is shown at a point beyond the right whisker.

There are four characteristics of the distribution of MSA and rural rates that are readily observed from boxplots: the median, the location and spread of the central 50 percent of observations, the overall spread as indicated by the length of the whiskers and the remoteness of the outlying points, and the symmetry of the distribution as indicated by the location of the median within the box, the relative lengths of the left and right whiskers, and the left and right balance of outlying points.

An understanding of the outlying observations may be aided by considering the number of expected outlying points in a normal distribution. For large, normally distributed samples, about 0.35 percent of the observations would lie outside each of the whiskers, that is, 2.7 standard deviations from the mean. This percent would be somewhat larger for the smaller samples used in this data compilation (Hoaglin, Mosteller, and Tukey, 1983). For example, if the 365 areas in the U.S. boxplots were from a normal distribution, one would expect, on average, about 0.4 percent, or 1.5 observations beyond each end of the whiskers. For New England, with 21 areas, the percent would be about 2.6, or an average of 0.55 observations on either side. It should be noted, however, that no attempt has been made to determine whether any of the actual distributions appear to be normal. Thus, outlying points that exceed expected values for normal distributions may not be true outliers for the actual distributions.

References

- Hansen, M.H., Hurwitz, W.N., and Madow, W.G.: *Sample Survey Methods and Theory*. Vol. I. New York. John Wiley and Sons, Inc., 1953.
- Hoaglin, D.C., Mosteller, F., and Tukey, J.W.: *Understanding Robust and Exploratory Data Analysis*. New York. John Wiley and Sons, Inc., 1983.

Table A-1. Absolute standard errors for deaths per 1,000 discharges or per 1,000 enrollees

Discharges or enrollees in base	Deaths per 1,000 discharges or per 1,000 enrollees									
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
	Standard error									
1,000					0.500	0.548	0.591	0.632	0.671	0.999
2,000				0.365	0.408	0.447	0.483	0.516	0.547	0.707
3,000			0.274	0.316	0.353	0.387	0.418	0.447	0.474	0.577
4,000		0.200	0.245	0.283	0.316	0.346	0.374	0.400	0.424	0.500
5,000		0.183	0.224	0.258	0.289	0.316	0.341	0.365	0.387	0.447
6,000		0.169	0.207	0.239	0.267	0.293	0.316	0.338	0.358	0.408
7,000		0.158	0.194	0.224	0.250	0.274	0.296	0.316	0.335	0.378
8,000		0.149	0.183	0.211	0.236	0.258	0.279	0.298	0.316	0.353
9,000		0.141	0.173	0.200	0.224	0.245	0.264	0.283	0.300	0.333
10,000	0.100	0.122	0.141	0.158	0.173	0.187	0.199	0.212	0.223	0.316
20,000	0.071	0.082	0.100	0.115	0.129	0.141	0.153	0.163	0.173	0.223
30,000	0.058	0.071	0.087	0.100	0.112	0.122	0.132	0.141	0.150	0.182
40,000	0.050	0.063	0.077	0.089	0.100	0.110	0.118	0.126	0.134	0.158
50,000	0.045	0.058	0.071	0.082	0.091	0.100	0.108	0.115	0.122	0.141
60,000	0.041	0.053	0.065	0.076	0.084	0.093	0.100	0.107	0.113	0.129
70,000	0.038	0.050	0.061	0.071	0.079	0.087	0.094	0.100	0.106	0.119
80,000	0.035	0.047	0.058	0.067	0.075	0.082	0.088	0.094	0.100	0.112
90,000	0.033	0.045	0.055	0.063	0.071	0.077	0.084	0.089	0.095	0.105
100,000	0.032	0.043	0.053	0.062	0.070	0.076	0.082	0.087	0.092	0.100
200,000	0.022	0.032	0.039	0.045	0.050	0.055	0.059	0.063	0.067	0.071
300,000	0.018	0.026	0.032	0.037	0.041	0.045	0.048	0.052	0.055	0.058
400,000	0.016	0.022	0.027	0.032	0.035	0.039	0.042	0.045	0.047	0.050
500,000	0.014	0.020	0.024	0.028	0.032	0.035	0.037	0.040	0.042	0.045
600,000	0.013	0.018	0.022	0.026	0.029	0.032	0.034	0.037	0.039	0.041
700,000	0.012	0.017	0.021	0.024	0.027	0.029	0.032	0.034	0.036	0.038
800,000	0.011	0.016	0.019	0.022	0.025	0.027	0.030	0.032	0.034	0.035
900,000	0.011	0.015	0.018	0.021	0.024	0.026	0.028	0.030	0.032	0.033
1,000,000	0.010	0.014	0.017	0.020	0.022	0.024	0.026	0.028	0.030	0.032
2,000,000	0.007	0.010	0.012	0.014	0.016	0.017	0.019	0.020	0.021	0.022
3,000,000	0.006	0.008	0.010	0.012	0.013	0.014	0.015	0.016	0.017	0.018
4,000,000	0.005	0.007	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016
5,000,000	0.004	0.006	0.008	0.009	0.010	0.011	0.012	0.013	0.013	0.014
6,000,000	0.004	0.006	0.007	0.008	0.009	0.010	0.011	0.012	0.012	0.013
7,000,000	0.004	0.005	0.007	0.008	0.008	0.009	0.010	0.011	0.011	0.012
8,000,000	0.004	0.005	0.006	0.007	0.008	0.009	0.009	0.010	0.011	0.011
9,000,000	0.003	0.005	0.006	0.007	0.007	0.008	0.009	0.009	0.010	0.011
10,000,000	0.003	0.004	0.005	0.006	0.007	0.008	0.008	0.009	0.009	0.010
20,000,000	0.002	0.003	0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.007
30,000,000	0.002	0.003	0.003	0.004	0.004	0.004	0.005	0.005	0.005	0.006

Table A-1. Absolute standard errors for deaths per 1,000 discharges or per 1,000 enrollees—Continued

Discharges or enrollees in base	Deaths per 1,000 discharges or per 1,000 enrollees									
	1	2	3	4	5	6	7	8	9	10
	Standard error									
100					4.987	5.461	5.895	6.299	6.678	9.950
200				3.644	4.072	4.459	4.814	5.143	5.453	7.036
300				3.156	3.527	3.861	4.169	4.454	4.722	5.745
400			2.735	2.823	3.154	3.454	3.729	3.984	4.224	4.975
500		1.998	2.446							4.450
600		1.824	2.233	2.577	2.880	3.153	3.404	3.637	3.856	4.062
700		1.689	2.067	2.386	2.666	2.919	3.151	3.367	3.570	3.761
800		1.580	1.934	2.232	2.494	2.730	2.948	3.150	3.339	3.518
900		1.489	1.823	2.104	2.351	2.574	2.779	2.969	3.148	3.317
1,000	0.999	1.413	1.729	1.996	2.230	2.442	2.636	2.817	2.986	3.146
2,000	0.707	0.999	1.223	1.411	1.577	1.727	1.864	1.992	2.112	2.225
3,000	0.577	0.816	0.998	1.152	1.288	1.410	1.522	1.626	1.724	1.817
4,000	0.500	0.706	0.865	0.998	1.115	1.221	1.318	1.409	1.493	1.573
5,000	0.447	0.632	0.773	0.893	0.997	1.092	1.179	1.260	1.336	1.407
6,000	0.408	0.577	0.706	0.815	0.911	0.997	1.076	1.150	1.219	1.285
7,000	0.378	0.534	0.654	0.754	0.843	0.923	0.996	1.065	1.129	1.189
8,000	0.353	0.499	0.611	0.706	0.789	0.863	0.932	0.996	1.056	1.112
9,000	0.333	0.471	0.576	0.665	0.743	0.814	0.879	0.939	0.995	1.049
10,000	0.316	0.447	0.547	0.631	0.705	0.772	0.834	0.891	0.944	0.995
20,000	0.223	0.316	0.387	0.446	0.499	0.546	0.590	0.630	0.668	0.704
30,000	0.182	0.258	0.316	0.364	0.407	0.446	0.481	0.514	0.545	0.574
40,000	0.158	0.223	0.273	0.316	0.353	0.386	0.417	0.445	0.472	0.497
50,000	0.141	0.200	0.245	0.282	0.315	0.345	0.373	0.398	0.422	0.445
60,000	0.129	0.182	0.223	0.258	0.288	0.315	0.340	0.364	0.386	0.406
70,000	0.119	0.169	0.207	0.239	0.267	0.292	0.315	0.337	0.357	0.376
80,000	0.112	0.158	0.193	0.223	0.249	0.273	0.295	0.315	0.334	0.352
90,000	0.105	0.149	0.182	0.210	0.235	0.257	0.278	0.297	0.315	0.332
100,000	0.100	0.141	0.173	0.200	0.223	0.244	0.264	0.282	0.299	0.315
200,000	0.071	0.100	0.122	0.141	0.158	0.173	0.186	0.199	0.211	0.222
300,000	0.058	0.082	0.100	0.115	0.129	0.141	0.152	0.163	0.172	0.182
400,000	0.050	0.071	0.086	0.100	0.112	0.122	0.132	0.141	0.149	0.157
500,000	0.045	0.063	0.077	0.089	0.100	0.109	0.118	0.126	0.134	0.141
600,000	0.041	0.058	0.071	0.081	0.091	0.100	0.108	0.115	0.122	0.128
700,000	0.038	0.053	0.065	0.075	0.084	0.092	0.100	0.106	0.113	0.119
800,000	0.035	0.050	0.061	0.071	0.079	0.086	0.093	0.100	0.106	0.111
900,000	0.033	0.047	0.058	0.067	0.074	0.081	0.088	0.094	0.100	0.105
1,000,000	0.032	0.045	0.055	0.063	0.071	0.077	0.083	0.089	0.094	0.099
2,000,000	0.022	0.032	0.039	0.045	0.050	0.055	0.059	0.063	0.067	0.070
3,000,000	0.018	0.026	0.032	0.036	0.041	0.045	0.048	0.051	0.055	0.057
4,000,000	0.016	0.022	0.027	0.032	0.035	0.039	0.042	0.045	0.047	0.050
5,000,000	0.014	0.020	0.024	0.028	0.032	0.035	0.037	0.040	0.042	0.044
6,000,000	0.013	0.018	0.022	0.026	0.029	0.032	0.034	0.036	0.039	0.041
7,000,000	0.012	0.017	0.021	0.024	0.027	0.029	0.032	0.034	0.036	0.038
8,000,000	0.011	0.016	0.019	0.022	0.025	0.027	0.029	0.031	0.033	0.035
9,000,000	0.011	0.015	0.018	0.021	0.024	0.026	0.028	0.030	0.031	0.033
10,000,000	0.010	0.014	0.017	0.020	0.022	0.024	0.026	0.028	0.030	0.031
20,000,000	0.007	0.010	0.012	0.014	0.016	0.017	0.019	0.020	0.021	0.022
30,000,000	0.006	0.008	0.010	0.012	0.013	0.014	0.015	0.016	0.017	0.018

Table A-1. Absolute standard errors for deaths per 1,000 discharges or per 1,000 enrollees—Continued

Discharges or enrollees in base	Deaths per 1,000 discharges or per 1,000 enrollees									
	10	20	30	40	50	60	70	80	90	100
	Standard error									
10					48.734	53.104	57.053	60.663	63.992	94.868
20				35.777	39.791	43.359	46.583	49.531	52.249	67.082
30			26.972	30.984	34.460	37.550	40.342	42.895	45.249	54.772
40		19.799	24.125	27.713	30.822	33.586	36.083	38.367	40.472	42.426
50										
60		18.074	22.023	25.298	28.137	30.659	32.939	35.024	36.946	38.730
70		16.733	20.389	23.422	26.049	28.385	30.496	32.426	34.205	35.857
80		15.652	19.072	21.909	24.367	26.552	28.526	30.331	31.996	33.541
90		14.757	17.981	20.656	22.973	25.033	26.895	28.597	30.166	31.623
100	9.950	14.000	17.059	19.596	21.794	23.749	25.515	27.129	28.618	30.000
200	7.036	9.899	12.062	13.856	15.411	16.793	18.042	19.183	20.236	21.213
300	5.745	8.083	9.849	11.314	12.583	13.711	14.731	15.663	16.523	17.321
400	4.975	7.000	8.529	9.798	10.897	11.874	12.757	13.565	14.309	15.000
500	4.450	6.261	7.629	8.764	9.747	10.621	11.411	12.133	12.798	13.416
600	4.062	5.715	6.964	8.000	8.898	9.695	10.416	11.075	11.683	12.247
700	3.761	5.292	6.448	7.407	8.238	8.976	9.644	10.254	10.817	11.339
800	3.518	4.950	6.031	6.928	7.706	8.396	9.021	9.592	10.118	10.607
900	3.317	4.667	5.686	6.532	7.265	7.916	8.505	9.043	9.539	10.000
1,000	3.146	4.427	5.394	6.197	6.892	7.510	8.068	8.579	9.050	9.487
2,000	2.225	3.130	3.814	4.382	4.873	5.310	5.705	6.066	6.399	6.708
3,000	1.817	2.556	3.114	3.578	3.979	4.336	4.658	4.953	5.225	5.477
4,000	1.573	2.214	2.697	3.098	3.446	3.755	4.034	4.290	4.525	4.743
5,000	1.407	1.980	2.412	2.771	3.082	3.359	3.608	3.837	4.047	4.243
6,000	1.285	1.807	2.202	2.530	2.814	3.066	3.294	3.502	3.695	3.873
7,000	1.189	1.673	2.039	2.342	2.605	2.839	3.050	3.243	3.421	3.586
8,000	1.112	1.565	1.907	2.191	2.437	2.655	2.853	3.033	3.200	3.354
9,000	1.049	1.476	1.798	2.066	2.297	2.503	2.689	2.860	3.017	3.162
10,000	0.995	1.400	1.706	1.960	2.179	2.375	2.551	2.713	2.862	3.000
20,000	0.704	0.990	1.206	1.386	1.541	1.679	1.804	1.918	2.024	2.121
30,000	0.574	0.808	0.985	1.131	1.258	1.371	1.473	1.566	1.652	1.732
40,000	0.497	0.700	0.853	0.980	1.090	1.187	1.276	1.356	1.431	1.500
50,000	0.445	0.626	0.763	0.876	0.975	1.062	1.141	1.213	1.280	1.342
60,000	0.406	0.572	0.696	0.800	0.890	0.970	1.042	1.108	1.168	1.225
70,000	0.376	0.529	0.645	0.741	0.824	0.898	0.964	1.025	1.082	1.134
80,000	0.352	0.495	0.603	0.693	0.771	0.840	0.902	0.959	1.012	1.061
90,000	0.332	0.467	0.569	0.653	0.726	0.792	0.850	0.904	0.954	1.000
100,000	0.315	0.443	0.539	0.620	0.689	0.751	0.807	0.858	0.905	0.949
200,000	0.222	0.313	0.381	0.438	0.487	0.531	0.571	0.607	0.640	0.671
300,000	0.182	0.256	0.311	0.358	0.398	0.434	0.466	0.495	0.522	0.548
400,000	0.157	0.221	0.270	0.310	0.345	0.375	0.403	0.429	0.452	0.474
500,000	0.141	0.198	0.241	0.277	0.308	0.336	0.361	0.384	0.405	0.424
600,000	0.128	0.181	0.220	0.253	0.281	0.307	0.329	0.350	0.369	0.387
700,000	0.119	0.167	0.204	0.234	0.260	0.284	0.304	0.324	0.342	0.359
800,000	0.111	0.157	0.191	0.219	0.244	0.266	0.285	0.303	0.320	0.335
900,000	0.105	0.148	0.180	0.207	0.230	0.250	0.269	0.286	0.302	0.316

Table A-1. Absolute standard errors for deaths per 1,000 discharges or per 1,000 enrollees—Continued

Discharges or enrollees in base	Deaths per 1,000 discharges or per 1,000 enrollees									
	10	20	30	40	50	60	70	80	90	100
1,000,000	0.099	0.140	0.171	0.196	0.218	0.237	0.255	0.271	0.286	0.300
2,000,000	0.070	0.099	0.121	0.139	0.154	0.168	0.180	0.192	0.202	0.212
3,000,000	0.057	0.081	0.098	0.113	0.126	0.137	0.147	0.157	0.165	0.173
4,000,000	0.050	0.070	0.085	0.098	0.109	0.119	0.128	0.136	0.143	0.150
5,000,000	0.044	0.063	0.076	0.088	0.097	0.106	0.114	0.121	0.128	0.134
6,000,000	0.041	0.057	0.070	0.080	0.089	0.097	0.104	0.111	0.117	0.122
7,000,000	0.038	0.053	0.064	0.074	0.082	0.090	0.096	0.103	0.108	0.113
8,000,000	0.035	0.049	0.060	0.069	0.077	0.084	0.090	0.096	0.101	0.106
9,000,000	0.033	0.047	0.057	0.065	0.073	0.079	0.085	0.090	0.095	0.100
10,000,000	0.031	0.044	0.054	0.062	0.069	0.075	0.081	0.086	0.090	0.095
20,000,000	0.022	0.031	0.038	0.044	0.049	0.053	0.057	0.061	0.064	0.067
30,000,000	0.018	0.026	0.031	0.036	0.040	0.043	0.047	0.050	0.052	0.055

	Deaths per 1,000 discharges or per 1,000 enrollees					Discharges or enrollees in base	Deaths per 1,000 discharges or per 1,000 enrollees				
	100	200	300	400	500		100	200	300	400	500
10	94.868	126.491	144.914	154.919	158.114	40,000	1.500	2.000	2.291	2.449	2.500
20	67.082	89.443	102.469	109.545	111.803	50,000	1.342	1.789	2.049	2.191	2.236
30	54.772	73.030	83.666	89.443	91.287	60,000	1.225	1.633	1.871	2.000	2.041
40	47.434	63.246	72.457	77.460	79.057	70,000	1.134	1.512	1.732	1.852	1.890
50	42.426	56.569	64.807	69.282	70.711	80,000	1.061	1.414	1.620	1.732	1.768
60	38.730	51.640	59.161	63.246	64.550	90,000	1.000	1.333	1.528	1.633	1.667
70	35.857	47.809	54.772	58.554	59.761	100,000	0.949	1.265	1.449	1.549	1.581
80	33.541	44.721	51.235	54.772	55.902	200,000	0.671	0.894	1.025	1.095	1.118
90	31.623	42.164	48.305	51.640	52.705	300,000	0.548	0.730	0.837	0.894	0.913
100	30.000	40.000	45.826	48.990	50.000	400,000	0.474	0.632	0.725	0.775	0.791
200	21.213	28.284	32.404	34.641	35.355	500,000	0.424	0.566	0.648	0.693	0.707
300	17.321	23.094	26.458	28.284	28.868	600,000	0.387	0.516	0.592	0.632	0.645
400	15.000	20.000	22.913	24.495	25.000	700,000	0.359	0.478	0.548	0.586	0.598
500	13.416	17.889	20.494	21.909	22.361	800,000	0.335	0.447	0.512	0.548	0.559
600	12.247	16.330	18.708	20.000	20.412	900,000	0.316	0.422	0.483	0.516	0.527
700	11.339	15.119	17.321	18.516	18.898	1,000,000	0.300	0.400	0.458	0.490	0.500
800	10.607	14.142	16.202	17.321	17.678	2,000,000	0.212	0.283	0.324	0.346	0.354
900	10.000	13.333	15.275	16.330	16.667	3,000,000	0.173	0.231	0.265	0.283	0.289
1,000	9.487	12.649	14.491	15.492	15.811	4,000,000	0.150	0.200	0.229	0.245	0.250
2,000	6.708	8.944	10.247	10.954	11.180	5,000,000	0.134	0.179	0.205	0.219	0.224
3,000	5.477	7.303	8.367	8.944	9.129	6,000,000	0.122	0.163	0.187	0.200	0.204
4,000	4.743	6.325	7.246	7.746	7.906	7,000,000	0.113	0.151	0.173	0.185	0.189
5,000	4.243	5.657	6.481	6.928	7.071	8,000,000	0.106	0.141	0.162	0.173	0.177
6,000	3.873	5.164	5.916	6.325	6.455	9,000,000	0.100	0.133	0.153	0.163	0.167
7,000	3.586	4.781	5.477	5.855	5.976	10,000,000	0.095	0.126	0.145	0.155	0.158
8,000	3.354	4.472	5.123	5.477	5.590	20,000,000	0.067	0.089	0.102	0.110	0.112
9,000	3.162	4.216	4.830	5.164	5.270	30,000,000	0.055	0.073	0.084	0.089	0.091
10,000	3.000	4.000	4.583	4.899	5.000						
20,000	2.121	2.828	3.240	3.464	3.536						
30,000	1.732	2.309	2.646	2.828	2.887						

Table A-2. Approximate standard errors for discharges per 1,000 enrollees

Enrollees in base	Discharges per 1,000 enrollees															
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	2	3	4	5	6	7
1,000					0.750	0.821	0.887	0.948	1.006	1.499	2.119	2.595	2.996	3.349	3.668	3.961
2,000				0.547	0.612	0.670	0.724	0.774	0.821	1.060	1.499	1.835	2.118	2.368	2.593	2.801
3,000			0.411	0.474	0.530	0.581	0.627	0.670	0.711	0.865	1.224	1.498	1.730	1.933	2.117	2.287
4,000		0.300	0.367	0.424	0.474	0.519	0.561	0.600	0.636	0.749	1.060	1.298	1.498	1.674	1.834	1.986
5,000					0.474	0.519	0.561	0.600	0.636	0.670	0.948	1.161	1.340	1.498	1.640	1.771
6,000		0.274	0.335	0.387	0.433	0.474	0.512	0.547	0.581	0.612	0.865	1.059	1.223	1.367	1.497	1.617
7,000		0.253	0.310	0.358	0.401	0.439	0.474	0.507	0.537	0.567	0.801	0.981	1.132	1.266	1.386	1.497
8,000		0.237	0.290	0.335	0.375	0.411	0.443	0.474	0.503	0.530	0.749	0.917	1.059	1.184	1.297	1.400
9,000		0.223	0.274	0.316	0.353	0.387	0.418	0.447	0.474	0.500	0.706	0.865	0.999	1.116	1.223	1.320
10,000	0.150	0.212	0.260	0.300	0.335	0.367	0.397	0.424	0.450	0.474	0.670	0.821	0.947	1.059	1.160	1.252
20,000	0.106	0.150	0.184	0.212	0.237	0.260	0.280	0.300	0.318	0.335	0.474	0.580	0.670	0.749	0.820	0.886
30,000	0.087	0.122	0.150	0.173	0.194	0.212	0.229	0.245	0.260	0.274	0.387	0.474	0.547	0.611	0.670	0.722
40,000	0.075	0.106	0.130	0.150	0.168	0.184	0.198	0.212	0.225	0.237	0.335	0.410	0.474	0.529	0.580	0.626
50,000	0.067	0.095	0.116	0.134	0.150	0.164	0.177	0.190	0.201	0.212	0.300	0.367	0.424	0.474	0.519	0.566
60,000	0.061	0.087	0.106	0.122	0.137	0.150	0.162	0.173	0.184	0.194	0.274	0.335	0.387	0.432	0.473	0.511
70,000	0.057	0.080	0.098	0.113	0.127	0.139	0.150	0.160	0.170	0.179	0.253	0.310	0.358	0.400	0.438	0.473
80,000	0.053	0.075	0.092	0.106	0.119	0.130	0.140	0.150	0.159	0.168	0.237	0.290	0.335	0.374	0.410	0.443
90,000	0.050	0.071	0.087	0.100	0.112	0.122	0.132	0.141	0.150	0.158	0.223	0.274	0.316	0.353	0.387	0.417
100,000	0.047	0.067	0.082	0.095	0.106	0.116	0.125	0.134	0.142	0.150	0.212	0.260	0.300	0.335	0.367	0.396
200,000	0.034	0.047	0.058	0.067	0.075	0.082	0.089	0.095	0.101	0.106	0.150	0.183	0.212	0.237	0.259	0.280
300,000	0.027	0.039	0.047	0.055	0.061	0.067	0.072	0.077	0.082	0.087	0.122	0.150	0.173	0.193	0.212	0.229
400,000	0.024	0.034	0.041	0.047	0.053	0.058	0.063	0.067	0.071	0.075	0.106	0.130	0.150	0.167	0.183	0.198
500,000	0.021	0.030	0.037	0.042	0.047	0.052	0.056	0.060	0.064	0.067	0.095	0.116	0.134	0.150	0.164	0.177
600,000	0.019	0.027	0.034	0.039	0.043	0.047	0.051	0.055	0.058	0.061	0.087	0.106	0.122	0.137	0.150	0.162
700,000	0.018	0.025	0.031	0.036	0.040	0.044	0.047	0.051	0.054	0.057	0.080	0.098	0.113	0.127	0.139	0.150
800,000	0.017	0.024	0.029	0.034	0.037	0.041	0.044	0.047	0.050	0.053	0.075	0.092	0.106	0.118	0.130	0.140
900,000	0.016	0.022	0.027	0.032	0.035	0.039	0.042	0.045	0.047	0.050	0.071	0.087	0.100	0.112	0.122	0.132
1,000,000	0.015	0.021	0.026	0.030	0.034	0.037	0.040	0.042	0.045	0.047	0.067	0.082	0.095	0.106	0.116	0.125
2,000,000	0.011	0.015	0.018	0.021	0.024	0.026	0.028	0.030	0.032	0.034	0.047	0.058	0.067	0.075	0.082	0.089
3,000,000	0.009	0.012	0.015	0.017	0.019	0.021	0.023	0.024	0.026	0.027	0.039	0.047	0.055	0.061	0.067	0.072
4,000,000	0.007	0.011	0.013	0.015	0.017	0.018	0.020	0.021	0.022	0.024	0.034	0.041	0.047	0.053	0.058	0.063
5,000,000	0.007	0.009	0.012	0.013	0.015	0.016	0.018	0.019	0.020	0.021	0.030	0.037	0.042	0.047	0.052	0.056
6,000,000	0.006	0.008	0.011	0.012	0.014	0.015	0.016	0.017	0.018	0.019	0.027	0.034	0.039	0.043	0.047	0.051
7,000,000	0.006	0.008	0.010	0.011	0.013	0.014	0.015	0.016	0.017	0.018	0.025	0.031	0.036	0.040	0.044	0.048
8,000,000	0.005	0.007	0.009	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.024	0.029	0.033	0.037	0.041	0.044
9,000,000	0.005	0.007	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.022	0.027	0.032	0.035	0.039	0.042
10,000,000	0.005	0.007	0.008	0.009	0.011	0.012	0.013	0.014	0.015	0.016	0.021	0.026	0.030	0.033	0.037	0.040
20,000,000	0.003	0.005	0.006	0.007	0.007	0.008	0.009	0.009	0.010	0.011	0.015	0.018	0.021	0.024	0.026	0.028
30,000,000	0.003	0.004	0.005	0.005	0.006	0.007	0.007	0.008	0.008	0.009	0.012	0.015	0.019	0.021	0.021	0.023

Table A-2. Approximate standard errors for discharges per 1,000 enrollees—Continued

Enrollees in base	Discharges per 1,000 enrollees															
	8	9	10	20	30	40	50	60	70	80	90	100	200	300	400	500
	Standard error															
1,000	4.233	4.489	4.731	6.675	8.157	9.397	10.483	11.457	12.347	13.169	13.936	14.655	20.238	24.173	27.187	29.562
2,000	2.993	3.174	3.345	4.720	5.768	6.645	7.413	8.101	8.731	9.312	9.854	10.363	14.310	17.093	19.224	20.903
3,000	2.444	2.592	2.731	3.854	4.709	5.426	6.052	6.615	7.129	7.603	8.046	8.461	11.684	13.956	15.696	17.068
4,000	2.117	2.244	2.365	3.338	4.078	4.699	5.241	5.729	6.173	6.585	6.968	7.328	10.119	12.087	13.593	14.781
5,000	1.893	2.007	2.116	2.985	3.648	4.203	4.688	5.124	5.522	5.889	6.232	6.554	9.051	10.811	12.158	13.220
6,000	1.728	1.833	1.931	2.725	3.330	3.836	4.280	4.677	5.041	5.376	5.689	5.983	8.262	9.869	11.099	12.069
7,000	1.600	1.697	1.788	2.523	3.083	3.523	3.962	4.300	4.667	4.977	5.267	5.539	7.649	9.137	10.276	11.173
8,000	1.497	1.587	1.673	2.360	2.884	3.323	3.706	4.051	4.365	4.656	4.927	5.181	7.155	8.547	9.612	10.452
9,000	1.411	1.496	1.577	2.225	2.719	3.132	3.494	3.819	4.116	4.390	4.645	4.885	6.746	8.058	9.062	9.854
10,000	1.339	1.419	1.496	2.111	2.579	2.972	3.315	3.623	3.904	4.164	4.407	4.634	6.400	7.644	8.597	9.348
20,000	0.947	1.004	1.058	1.493	1.824	2.101	2.344	2.562	2.761	2.945	3.116	3.277	4.525	5.405	6.079	6.610
30,000	0.773	0.820	0.864	1.219	1.489	1.716	1.914	2.092	2.254	2.404	2.544	2.676	3.695	4.413	4.964	5.397
40,000	0.669	0.710	0.748	1.055	1.290	1.486	1.657	1.812	1.952	2.082	2.203	2.317	3.200	3.822	4.299	4.674
50,000	0.599	0.635	0.669	0.944	1.154	1.329	1.483	1.620	1.746	1.862	1.971	2.073	2.862	3.419	3.845	4.181
60,000	0.546	0.580	0.611	0.862	1.053	1.213	1.353	1.479	1.594	1.700	1.799	1.892	2.613	3.121	3.510	3.816
70,000	0.506	0.537	0.565	0.798	0.975	1.123	1.253	1.369	1.476	1.574	1.666	1.752	2.419	2.889	3.249	3.533
80,000	0.473	0.502	0.529	0.746	0.912	1.051	1.172	1.281	1.380	1.472	1.558	1.639	2.263	2.703	3.040	3.305
90,000	0.446	0.473	0.499	0.704	0.860	0.991	1.105	1.208	1.301	1.388	1.469	1.545	2.133	2.548	2.866	3.116
100,000	0.423	0.449	0.473	0.668	0.816	0.940	1.048	1.146	1.235	1.317	1.394	1.466	2.024	2.417	2.719	2.956
200,000	0.299	0.317	0.335	0.472	0.577	0.665	0.741	0.810	0.873	0.931	0.985	1.036	1.431	1.709	1.922	2.090
300,000	0.244	0.259	0.273	0.385	0.471	0.543	0.605	0.661	0.713	0.760	0.805	0.846	1.168	1.396	1.570	1.707
400,000	0.212	0.224	0.237	0.334	0.408	0.470	0.524	0.573	0.617	0.658	0.697	0.733	1.012	1.209	1.359	1.478
500,000	0.189	0.201	0.212	0.299	0.365	0.420	0.469	0.512	0.552	0.589	0.623	0.655	0.905	1.081	1.216	1.322
600,000	0.173	0.183	0.193	0.273	0.333	0.384	0.428	0.468	0.504	0.538	0.569	0.598	0.826	0.987	1.110	1.207
700,000	0.160	0.170	0.179	0.252	0.308	0.355	0.396	0.433	0.467	0.498	0.527	0.554	0.765	0.914	1.028	1.117
800,000	0.150	0.159	0.167	0.236	0.288	0.332	0.371	0.405	0.437	0.466	0.493	0.518	0.716	0.855	0.961	1.045
900,000	0.141	0.150	0.158	0.223	0.272	0.313	0.349	0.382	0.412	0.439	0.465	0.489	0.675	0.806	0.906	0.985
1,000,000	0.134	0.142	0.150	0.211	0.258	0.297	0.331	0.362	0.390	0.416	0.441	0.463	0.640	0.764	0.860	0.935
2,000,000	0.095	0.100	0.106	0.149	0.182	0.210	0.234	0.256	0.276	0.294	0.312	0.328	0.453	0.541	0.608	0.661
3,000,000	0.077	0.082	0.086	0.122	0.149	0.172	0.191	0.209	0.225	0.240	0.254	0.268	0.369	0.441	0.496	0.540
4,000,000	0.067	0.071	0.075	0.106	0.129	0.149	0.166	0.181	0.195	0.208	0.220	0.232	0.320	0.382	0.430	0.467
5,000,000	0.060	0.063	0.067	0.094	0.115	0.133	0.148	0.162	0.175	0.186	0.197	0.207	0.286	0.342	0.384	0.418
6,000,000	0.055	0.058	0.061	0.086	0.105	0.121	0.135	0.148	0.159	0.170	0.180	0.189	0.261	0.312	0.351	0.382
7,000,000	0.051	0.054	0.057	0.080	0.097	0.112	0.125	0.137	0.148	0.157	0.167	0.175	0.242	0.289	0.325	0.353
8,000,000	0.047	0.050	0.053	0.075	0.091	0.105	0.117	0.128	0.138	0.147	0.156	0.164	0.226	0.270	0.304	0.331
9,000,000	0.045	0.047	0.050	0.070	0.086	0.099	0.110	0.121	0.130	0.139	0.147	0.154	0.213	0.255	0.287	0.312
10,000,000	0.042	0.045	0.047	0.067	0.082	0.094	0.105	0.115	0.123	0.132	0.139	0.147	0.202	0.242	0.272	0.296
20,000,000	0.030	0.032	0.033	0.047	0.058	0.066	0.074	0.081	0.087	0.093	0.099	0.104	0.143	0.171	0.192	0.209
30,000,000	0.024	0.026	0.027	0.039	0.047	0.054	0.061	0.066	0.071	0.076	0.080	0.085	0.117	0.140	0.157	0.171

Table A-3. Number of metropolitan statistical areas (MSAs) and rural areas, by division: United States, 1986

Division	MSAs and rural areas
New England	21
Middle Atlantic	38
East North Central	63
West North Central	34
South Atlantic	64
East South Central	26
West South Central	48
Mountain	28
Pacific	43

Appendix B. Diagnostic groups and categories

Diagnostic group	ICD-9-CM code
All cancers	140-208
Malignant neoplasms of digestive organs and peritoneum	150-159, 197.4*, 197.6*-197.8*
Malignant neoplasms of trachea, bronchus, and lung	162, 197.0*, 197.3*
Stroke	430-432, 433.0, 434, 436
Heart disease	391-392.0, 393-398, 402, 404, 410-429
Ischemic heart disease	410-414
Acute myocardial infarction	410
Pneumonia and influenza	480-487
Hernia of abdominal cavity	550-553
Disease of the gallbladder	574-576
Fracture of neck of femur	820
Diagnostic category	
Cancer (high risk)	141, 147, 150-151, 156-159, 162.2-164, 171.5, 171.8-171.9, 172.8, 179, 180.9, 183, 189.0, 191, 192.2, 195, 196.1-196.2, 196.8, 197.0-197.2*, 197.4-197.8*, 198.0-198.1*, 198.3-198.8*, 199*, 200-208
Severe acute cardiovascular disease (high risk)	410, 415, 421.0, 421.9, 423.0-423.2, 427.4-427.5, 441.0-441.1, 441.3, 441.5, 444.1, 447.2, 785.5
Severe chronic cardiovascular disease (high risk)	397, 398.91#, 416, 425.0, 425.2-425.4, 426.89#, 428, 429.5-429.9, 441.2, 442.2, 453.2
Circulatory disease (low risk)	390, 393, 401, 402.00#, 402.90#, 405, 411.1-411.8, 413-414, 417, 420.9, 422.9, 425.1, 426.1-426.7, 426.81*, 427.0, 427.2-427.3, 427.6, 427.8-427.9, 429.4, 433.1-433.9, 435, 437.2, 442.0-442.1, 442.3-442.9, 447.0-447.1, 447.3-447.9, 448, 451, 453.1, 453.8-453.9, 454-455, 456.3-456.6, 457.0-457.1, 457.9, 458.0
Gastrointestinal catastrophies (high risk)	452, 453.0, 456.0, 456.20*, 530.4, 530.8, 531.1-531.2, 531.5-531.6, 532.1-532.2, 532.5-532.6, 533.1-533.2, 533.5-533.6, 534.1-534.2, 534.5-534.6, 551, 557.0, 558.2, 560.0, 560.2, 560.89#, 567, 569.83#, 570, 571.2, 571.5, 571.6, 572.2-572.4, 572.8
Metabolic and electrolyte disorders (high risk)	250.2-250.3*, 260-263, 273, 275.4, 276.0, 276.2, 276.4-276.5, 277.3
Pulmonary disease (high risk)	481, 482.0-482.1, 482.3-482.9, 485-486, 500-505, 507, 508.0, 510, 511.1-511.9, 512-516.0, 518.0-518.1, 518.4, 518.5, 519.2-519.3
Renal disease (high risk)	453.3, 584-586
Infectious disease (high risk)	018, 027.0, 036, 038, 040, 046-048, 049.0-049.1, 054, 060, 070.0, 070.2, 070.4, 070.6, 112, 116-117, 136.3, 320 (except 320.7)
Severe injury (high risk)	806.0-806.1, 807.4, 851-853, 861.0-861.1, 861.3, 864, 868-869, 875.1, 901-902, 933.1, 934, 946.3-946.5, 948.4-948.9, 958.4
Neuropsychiatric and sensory disease (low risk)	290-292, 293.1-293.9, 294-309, 311-319, 331.1-331.9 (except 331.7), 332-334 (except 334.4), 337 (except 337.1), 340, 342-343, 344.2-344.9, 345.0-345.2, 345.4-345.9, 346-347, 348.0, 350-358 (except 357.1-357.4, 358.1), 360-389
Gynecological disease (low risk)	614-627 (except 619.1)
Gastrointestinal disease (low risk)	520-527, 528.2, 528.4-528.9, 529, 530.0-530.3, 530.5-530.7, 530.9, 531.3, 531.7-531.9, 532.3, 532.7-532.9, 533.3, 533.7-533.9, 534.3, 534.7-534.9, 535-536, 537.1-537.2, 537.5-537.6, 537.81, 537.9, 540-543, 550, 552, 558.1, 558.9, 562-566, 568, 569.0-569.2, 569.4-569.6, 569.9, 571.8-571.9, 574.00#, 574.10#, 574.20#, 574.30#, 574.40#, 574.50#, 575.0-575.3, 575.5-575.6, 575.9, 576.0, 576.9, 577.1, 577.9, 579

See notes at end of table.

Diagnostic category

Urologic disease (low risk)

Cutaneous and musculoskeletal conditions (low risk)

ICD-9-CM code

582-583, 588-589, 590.1, 590.8, 590.9, 592, 594-595, 596.0, 596.2-596.5, 596.7-596.9, 597-598, 599.1-599.9, 600-606, 607.0-607.1, 607.3-607.9, 608.0-608.3, 608.8-608.9
680-686, 690-698, 700-706, 707.1-707.9, 708-709, 710.0, 710.2-710.9, 714.0-714.4, 714.89, 714.9, 715-744, 746-758, 800.0, 800.5, 801.0, 801.5, 802, 805, 806.1-806.9, 807.00-807.06, 807.1-807.3, 807.5-807.6, 808-819, 822-838, 839.1-839.9, 840-848, 850, 854.00-854.04, 854.06-854.09, 861.2, 862, 867.1, 867.3-867.9, 870-874, 875.0, 876-887, 890-897, 905-929

NOTES: ICD-9-CM is International Classification of Diseases, 9th Revision, Clinical Modification. * indicates that a code was not used for coding underlying cause of death. # indicates that cause of death was coded only to the 4th digit; therefore, the code at the 4-digit level was used to group deaths by cause.

Appendix C. Total and post-admission deaths

Table C-1. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission
United States	1,450,036	48.0
Metropolitan	1,054,900	47.0
Rural	395,136	50.6
Northeast	349,862	46.0
Metropolitan	310,178	45.9
Rural	39,684	46.8
New England	87,484	45.0
Metropolitan	75,156	45.0
Rural	12,328	44.6
Maine	8,584	44.8
Metropolitan	4,591	43.1
Rural	3,993	46.8
New Hampshire	6,427	45.8
Metropolitan	4,212	45.5
Rural	2,215	46.3
Vermont	3,598	43.0
Metropolitan	612	43.6
Rural	2,986	42.9
Massachusetts	40,948	46.7
Metropolitan	38,463	47.0
Rural	2,485	42.1
Rhode Island	7,294	45.9
Metropolitan	7,294	45.9
Rural	0	.0
Connecticut	20,633	41.3
Metropolitan	19,984	41.2
Rural	649	42.8
Middle Atlantic	262,378	46.4
Metropolitan	235,022	46.2
Rural	27,356	47.8
New York	120,419	44.6
Metropolitan	107,801	44.4
Rural	12,618	46.1

See note at end of table.

Table C-1. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission
New Jersey	50,579	48.1
Metropolitan	50,579	48.1
Rural	0	.0
Pennsylvania	91,380	47.7
Metropolitan	76,642	47.4
Rural	14,738	49.3
North Central	383,028	48.4
Metropolitan	248,275	47.8
Rural	134,753	49.3
East North Central	264,603	48.4
Metropolitan	194,437	48.2
Rural	70,166	48.8
Ohio	71,217	48.2
Metropolitan	55,558	48.2
Rural	15,659	48.3
Indiana	34,828	49.0
Metropolitan	22,461	48.6
Rural	12,367	49.7
Illinois	71,257	49.7
Metropolitan	54,236	49.0
Rural	17,021	52.1
Michigan	55,090	47.8
Metropolitan	42,477	48.0
Rural	12,613	47.3
Wisconsin	32,211	46.0
Metropolitan	19,705	46.4
Rural	12,506	45.5
West North Central	118,425	48.3
Metropolitan	53,838	46.4
Rural	64,587	49.9
Minnesota	23,652	42.5
Metropolitan	12,100	39.5
Rural	11,552	45.7

See note at end of table.

Table C-1. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission
Iowa	21,223	47.3
Metropolitan	7,288	48.3
Rural	13,935	46.8
Missouri	36,771	50.2
Metropolitan	21,772	49.2
Rural	14,999	51.6
North Dakota	4,063	50.5
Metropolitan	1,147	44.6
Rural	2,916	52.8
South Dakota	4,894	51.5
Metropolitan	1,035	48.4
Rural	3,859	52.4
Nebraska	11,181	49.0
Metropolitan	3,775	45.9
Rural	7,406	50.6
Kansas	16,641	51.8
Metropolitan	6,721	48.2
Rural	9,920	54.3
South	484,266	50.2
Metropolitan	306,554	48.3
Rural	177,712	53.4
South Atlantic	247,698	47.9
Metropolitan	173,895	46.9
Rural	73,803	50.3
Delaware	3,937	45.1
Metropolitan	2,435	42.0
Rural	1,502	50.3
Maryland	24,535	44.9
Metropolitan	22,170	45.0
Rural	2,465	44.1
District of Col.	4,018	33.8
Metropolitan	4,018	33.8
Rural	0	.0

See note at end of table.

Table C-1. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Number of deaths non-HMD enrollees	Percent of deaths occurring within 30 days of a hospital admission
Virginia	31,117	47.0
Metropolitan	19,540	45.0
Rural	11,577	50.3
West Virginia	14,187	54.1
Metropolitan	5,237	54.4
Rural	8,950	53.9
North Carolina	36,411	44.2
Metropolitan	18,122	41.8
Rural	18,289	46.6
South Carolina	17,906	46.8
Metropolitan	10,138	44.7
Rural	7,768	49.5
Georgia	31,727	51.8
Metropolitan	17,580	50.0
Rural	14,147	54.0
Florida	83,760	49.3
Metropolitan	74,655	49.1
Rural	9,105	50.7
East South Central	97,077	52.8
Metropolitan	48,568	49.6
Rural	48,509	56.0
Kentucky	24,360	53.3
Metropolitan	10,299	49.4
Rural	14,061	56.1
Tennessee	30,580	52.7
Metropolitan	19,031	49.4
Rural	11,549	58.3
Alabama	25,611	50.9
Metropolitan	15,602	49.9
Rural	10,009	52.5
Mississippi	16,526	55.1
Metropolitan	3,636	50.6
Rural	12,890	56.4

See note at end of table.

Table C-1. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Number of deaths non-HMD enrollees	Percent of deaths occurring within 30 days of a hospital admission
West South Central		
Metropolitan	139,491	52.3
Rural	84,091	50.3
	55,400	55.3
Arkansas		
Metropolitan	17,578	53.8
Rural	5,636	49.0
	11,942	56.1
Louisiana		
Metropolitan	23,259	53.7
Rural	14,770	52.4
	8,489	56.0
Oklahoma		
Metropolitan	20,955	52.7
Rural	9,790	50.1
	11,165	55.0
Texas		
Metropolitan	77,699	51.4
Rural	53,895	49.9
	23,804	54.8
West		
Metropolitan	232,880	45.6
Rural	189,893	45.5
	42,987	46.2
Mountain		
Metropolitan	58,452	45.7
Rural	35,437	44.7
	23,015	47.3
Montana		
Metropolitan	4,807	48.1
Rural	984	49.3
	3,823	47.8
Idaho		
Metropolitan	5,301	43.3
Rural	853	35.4
	4,448	44.8
Wyoming		
Metropolitan	2,142	53.0
Rural	607	48.9
	1,535	54.6
Colorado		
Metropolitan	13,642	42.8
Rural	10,443	43.0
	3,199	42.3

See note at end of table.

Table C-1. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan and rural counties: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission
New Mexico		
Metropolitan	6,100	48.5
Rural	2,567	43.1
	3,533	52.4
Arizona		
Metropolitan	16,165	46.9
Rural	12,219	46.6
	3,946	47.6
Utah		
Metropolitan	6,088	41.6
Rural	4,470	40.6
	1,618	44.3
Nevada		
Metropolitan	4,207	49.6
Rural	3,294	50.4
	913	46.8
Pacific		
Metropolitan	174,428	45.6
Rural	154,456	45.6
	19,972	45.0
Washington		
Metropolitan	23,344	43.9
Rural	17,795	43.6
	5,549	44.6
Oregon		
Metropolitan	15,613	40.0
Rural	9,847	38.5
	5,766	42.5
California		
Metropolitan	131,114	46.7
Rural	124,011	46.6
	7,103	48.3
Alaska		
Metropolitan	805	37.3
Rural	272	39.7
	533	36.0
Hawaii		
Metropolitan	3,552	43.4
Rural	2,531	43.2
	1,021	43.8

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included.

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Table C-2. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission
United States	1,450,036	48.0
Northeast	349,862	46.0
New England	87,484	45.0
Maine	8,584	44.8
Bangor, ME	947	44.1
Lewiston-Auburn, ME	755	43.2
Portland, ME	2,889	42.7
New Hampshire	6,427	45.8
Manchester, NH	2,529	45.2
Portsmouth, NH	1,683	46.0
Vermont	3,598	43.0
Burlington, VT	612	43.6
Massachusetts	40,948	46.7
Boston, MA	25,172	46.5
New Bedford, MA	3,513	47.6
Pittsfield, MA	1,240	47.9
Springfield, MA	4,191	47.3
Worcester, MA	4,347	49.0
Rhode Island	7,294	45.9
Providence, RI	7,294	45.9
Connecticut	20,633	41.3
Bridgeport, CT	4,958	41.4
Hartford, CT	8,109	42.4
New Haven, CT	5,461	38.8
New London, CT	1,456	43.3

See note at end of table.

Table C-2. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission
Middle Atlantic	262,378	46.4
New York	120,419	44.6
Albany, NY	6,453	42.9
Binghamton, NY	2,032	46.8
Buffalo, NY	7,712	42.3
Elmira, NY	761	41.0
Glens Falls, NY	823	42.3
Nassau-Suffolk, NY	16,184	48.3
New York, NY	55,997	44.5
Niagara Falls, NY	1,634	46.3
Orange County, NY	1,754	49.7
Poughkeepsie, NY	1,626	40.8
Rochester, NY	5,962	40.1
Syracuse, NY	4,129	39.3
Utica-Rome, NY	2,734	45.3
New Jersey	50,579	48.1
Atlantic City, NJ	2,765	46.9
Bergen-Passaic, NJ	8,947	48.0
Jersey City, NJ	3,803	46.3
Middlesex, NJ	4,840	47.1
Monmouth-Ocean, NJ	8,110	50.3
Newark, NJ	11,842	46.6
Trenton, NJ	2,051	48.2
Vineland, NJ	984	50.0
Pennsylvania	91,380	47.7
Allentown, PA-NJ	4,983	46.4
Altoona, PA	1,243	43.3
Beaver County, PA	1,417	52.6
Erie, PA	1,871	44.6
Harrisburg, PA	4,040	44.0
Johnstown, PA	2,190	54.3
Lancaster, PA	2,546	38.1
Philadelphia PA-NJ	33,049	47.9
Pittsburgh, PA	17,835	51.1
Reading, PA	2,570	43.2
Scranton, PA	6,662	46.1
Sharon, PA	1,008	51.7
State College, PA	564	46.6
Williamsport, PA	910	44.6
York, PA	2,546	41.1

See note at end of table.

Table C-2. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission
North Central	383,028	48.4
East North Central	264,603	48.4
Ohio	71,217	48.2
Akron, OH	4,288	51.3
Canton, OH	2,769	47.5
Cincinnati, OH-KY-IN	9,248	49.2
Cleveland, OH	13,411	49.2
Columbus, OH	7,084	45.3
Dayton, OH	5,885	44.7
Hamilton, OH	1,537	51.1
Lima, OH	1,031	44.7
Lorain-Elyria, OH	1,431	51.7
Mansfield, OH	830	43.7
Steubenville, OH-WV	1,254	56.8
Toledo, OH	4,140	47.2
Youngstown, OH	3,719	48.1
Indiana	34,828	49.0
Anderson, IN	935	54.7
Bloomington, IN	439	45.1
Elkhart-Goshen, IN	766	42.8
Evansville, IN-KY	1,915	49.5
Fort Wayne, IN	2,148	41.3
Gary-Hammond, IN	3,406	50.4
Indianapolis, IN	6,847	49.1
Kokomo, IN	640	59.7
Lafayette, IN	660	42.1
Muncie, IN	776	47.8
South Bend, IN	1,739	44.7
Terre Haute, IN	1,115	50.4
Illinois	71,257	49.7
Aurora-Evanston, IL	1,718	47.3
Bloomington, IL	703	52.9
Champaign, IL	690	45.4
Chicago, IL	35,288	48.3
Decatur, IL	895	50.5
Joliet, IL	1,554	50.3
Kankakee, IL	671	54.4
Lake County, IL	1,938	49.7
Peoria, IL	2,297	49.7
Rockford, IL	1,586	48.5
Springfield, IL	1,393	49.7

See note at end of table.

Table C-2. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan statistical area: United States, 1985

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission	
Michigan	55,090		47.8
Ann Arbor, MI	1,044		42.2
Battle Creek, MI	936		47.9
Benton Harbor, MI	1,207		52.8
Detroit, MI	26,021		50.1
Flint, MI	2,517		48.5
Grand Rapids, MI	3,449		38.9
Jackson, MI	952		43.7
Kalamazoo, MI	1,192		42.6
Lansing, MI	1,785		44.4
Muskegon, MI	1,032		46.9
Saginaw, MI	2,342		44.8
Wisconsin	32,211		46.0
Appleton, WI	1,664		43.8
Eau Claire, WI	1,895		50.2
Green Bay, WI	966		44.4
Janesville, WI	920		47.7
Kenosha, WI	740		45.8
LaCrosse, WI	642		50.6
Madison, WI	1,553		37.3
Milwaukee, WI	9,176		47.3
Racine, WI	1,073		47.5
Sheboygan, WI	776		50.4
Wausau, WI	661		44.3
West North Central	118,425		48.3
Minnesota	23,652		42.5
Duluth, MN-WI	1,893		42.7
Minneapolis, MN-WI	9,382		39.2
Rochester, MN	439		42.1
St. Cloud, MN	742		39.5
Iowa	21,223		47.3
Cedar Rapids, IA	1,004		47.5
Davenport, IA-IL	2,419		53.7
Des Moines, IA	2,168		46.4
Dubuque, IA	612		43.0
Iowa City, IA	331		35.0
Sioux City, IA-NE	844		52.0
Waterloo, IA	992		51.1

See note at end of table.

Table C-2. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Number of deaths non-HMD enrollees	Percent of deaths occurring within 30 days of a hospital admission
Missouri	36,771	50.2
Columbia, MO	422	46.2
Joplin, MO	1,091	54.6
Kansas City, MO-KS	8,637	49.6
St. Joseph, MO	813	49.3
St. Louis, MO-IL	16,205	49.6
Springfield, MO	1,489	47.2
North Dakota	4,063	50.5
Bismarck, ND	385	47.8
Fargo, ND-MN	731	43.9
Grand Forks, ND	314	41.7
South Dakota	4,894	51.5
Rapid City, SD	380	47.1
Sioux Falls, SD	655	49.2
Nebraska	11,181	49.0
Lincoln, NE	1,048	41.9
Omaha, NE-IA	3,196	48.4
Kansas	16,641	51.8
Lawrence, KS	289	49.5
Topeka, KS	1,007	39.0
Wichita, KS	2,492	50.1
South	484,266	50.2
South Atlantic	247,698	47.9
Delaware	3,937	45.1
Wilmington, DE-NJ-MD	3,223	45.1
Maryland	24,635	44.9
Baltimore, MD	13,981	46.1
Cumberland, MD-WV	933	54.8
Hagerstown, MD	765	39.7
District of Col.	4,018	33.8
Washington, DC-MD-VA	14,360	38.9

See note at end of table.

Table C-2. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission
Virginia	31,117	47.0
Charlottesville, VA	583	47.1
Danville, VA	873	45.1
Lynchburg, VA	980	43.1
Norfolk, VA	5,822	48.3
Richmond, VA	4,845	44.4
Roanoke, VA	1,675	45.0
West Virginia	14,187	54.1
Charleston, WV	1,893	52.5
Huntington, WV-KY-OH	2,362	52.2
Parkersburg, WV-OH	1,115	58.7
Wheeling, WV-OH	1,307	55.2
North Carolina	36,411	44.2
Asheville, NC	1,234	36.1
Burlington, NC	732	38.0
Charlotte, NC	5,766	42.1
Fayetteville, NC	734	38.4
Greensboro, NC	5,252	43.3
Hickory, NC	1,209	45.7
Jacksonville, NC	273	39.6
Raleigh-Durham, NC	2,905	42.3
Wilmington, NC	626	43.5
South Carolina	17,906	46.8
Anderson, SC	843	49.1
Charleston, SC	1,909	42.1
Columbia, SC	2,001	38.6
Florence, SC	670	54.6
Greenville, SC	3,447	45.6
Georgia	31,727	51.8
Albany, GA	536	53.9
Athens, GA	733	53.1
Atlanta, GA	10,506	50.5
Augusta, GA-SC	1,938	47.0
Columbus, GA-AL	1,343	49.7
Macon, GA	1,493	49.2
Savannah, GA	1,368	44.4

See note at end of table.

Table C-2. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division. State, and metropolitan statistical area: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission
Florida	83,760	49.3
Bradenton, FL	1,995	52.1
Daytona Beach, FL	2,978	49.3
Fort Lauderdale, FL	8,708	52.7
Fort Myers, FL	2,565	47.3
Fort Pierce, FL	1,776	48.9
FT. Walton Beach, FL	503	48.1
Gainesville, FL	925	44.6
Jacksonville, FL	4,416	46.7
Lakeland, FL	2,622	47.4
Melbourne, FL	2,074	51.9
Miami-Hialeah, FL	10,183	48.1
Naples, FL	876	47.8
Ocala, FL	1,394	47.1
Orlando, FL	4,630	49.8
Panama City, FL	593	55.3
Pensacola, FL	1,581	48.2
Sarasota, FL	3,245	47.3
Tallahassee, FL	890	49.0
Tampa, FL	16,564	48.8
West Palm Beach, FL	6,137	49.7
East South Central	97,077	52.8
Kentucky	24,360	53.3
Lexington, KY	1,765	45.7
Louisville, KY-IN	5,995	49.7
Owensboro, KY	532	56.0
Tennessee	30,580	52.7
Chattanooga, TN-GA	2,774	51.2
Clarksville, TN-KY	714	50.4
Jackson, TN	498	55.0
Johnson City, TN-VA	2,934	54.4
Knoxville, TN	3,807	50.8
Memphis, TN-AR-MS	5,422	45.9
Nashville, TN	5,130	48.9

See note at end of table.

Table C-2. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Number of deaths non-HMD enrollees	Percent of deaths occurring within 30 days of a hospital admission
Alabama	25,611	50.9
Anniston, AL	749	51.1
Birmingham, AL	6,200	51.0
Dothan, AL	665	53.1
Florence, AL	837	52.1
Gadsden, AL	784	53.6
Huntsville, AL	885	50.2
Mobile, AL	2,733	47.9
Montgomery, AL	1,636	48.0
Tuscaloosa, AL	780	43.3
Mississippi	16,526	55.1
Biloxi-Gulfport, MS	1,034	52.9
Jackson, MS	1,916	48.4
Pascagoula, MS	444	54.7
West South Central	139,491	52.3
Arkansas	17,578	53.8
Fayetteville, AR	637	49.1
Fort Smith, AR-OK	1,134	54.9
Little Rock, AR	2,789	47.7
Pine Bluff, AR	684	43.1
Louisiana	23,259	53.7
Alexandria, LA	788	48.6
Baton Rouge, LA	2,071	51.9
Houma-Thibodaux, LA	669	59.8
Lafayette, LA	754	48.9
Lake Charles, LA	879	58.1
Monroe, LA	832	56.5
New Orleans, LA	6,676	51.6
Shreveport, LA	2,101	52.2
Oklahoma	20,955	52.7
Enid, OK	445	51.7
Lawton, OK	391	50.1
Oklahoma City, OK	4,765	49.4
Tulsa, OK	3,976	50.6

See note at end of table.

Table C-2. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division. State, and metropolitan statistical area: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission
Texas	77,699	51.4
Abilene, TX	717	53.0
Amarillo, TX	985	47.3
Austin, TX	2,449	47.2
Beaumont, TX	2,314	57.5
Brazoria, TX	676	55.8
Brownsville, TX	1,020	51.8
Bryan, TX	367	54.8
Corpus Christi, TX	1,444	52.4
Dallas, TX	9,443	49.0
El Paso, TX	1,773	46.1
Fort Worth, TX	5,284	47.0
Galveston, TX	1,084	51.3
Houston, TX	10,032	50.2
Killeen-Temple, TX	886	47.4
Laredo, TX	437	55.8
Longview, TX	1,148	51.4
Lubbock, TX	951	56.4
McAllen, TX	1,202	53.9
Midland, TX	359	55.7
Odessa, TX	456	50.0
San Angelo, TX	582	49.1
San Antonio, TX	5,530	45.9
Sherman-Denison, TX	756	51.9
Texarkana, TX-AR	863	53.0
Tyler, TX	900	54.7
Victoria, TX	377	59.2
Waco, TX	1,325	49.6
Wichita Falls, TX	830	51.4
West	232,880	45.6
Mountain	58,452	45.7
Montana	4,807	48.1
Billings, MT	534	47.0
Great Falls, MT	450	52.0
Idaho	5,301	43.3
Boise City, ID	853	35.4
Wyoming	2,142	53.0
Casper, WY	245	49.0
Cheyenne, WY	362	48.9

See note at end of table.

Table C-2. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths occurring within 30 days of a hospital admission
Colorado	13,642	42.8
Boulder-Longmont, CO	703	39.0
Colorado Springs, CO	1,208	40.3
Denver, CO	6,362	43.5
Fort Collins, CO	802	41.5
Greeley, CO	581	48.0
Pueblo, CO	787	44.0
New Mexico	6,100	48.5
Albuquerque, NM	1,781	40.8
Las Cruces, NM	422	52.6
Santa Fe, NM	364	43.7
Arizona	16,165	46.9
Phoenix, AZ	8,731	47.1
Tucson, AZ	3,488	45.5
Utah	6,088	41.6
Provo-Orem, UT	791	45.1
Salt Lake City, UT	3,679	39.6
Nevada	4,207	49.6
Las Vegas, NV	2,306	53.9
Reno, NV	988	42.3
Pacific	174,428	45.6
Washington	23,344	43.9
Bellingham, WA	668	36.4
Bremerton, WA	773	41.8
Olympia, WA	730	45.2
Richland, WA	534	49.1
Seattle, WA	8,247	44.8
Spokane, WA	2,256	41.4
Tacoma, WA	2,618	41.9
Vancouver, WA	872	37.7
Yakima, WA	1,097	50.0
Oregon	15,613	40.0
Eugene, OR	1,455	40.2
Medford, OR	949	42.3
Portland, OR	5,747	36.8
Salem, OR	1,696	40.7

See note at end of table.

Table C-2. Total number of deaths for aged Medicare enrollees and percent of deaths occurring within 30 days of a short-stay hospital admission, by census region and division, State, and metropolitan statistical area: United States, 1986

Area of residence	Number of deaths non-HMO enrollees	Percent of deaths	
		occurring within 30 days of a	hospital admission
California	131,114		46.7
Anaheim-Santa Ana, CA	8,791		50.7
Bakersfield, CA	2,310		52.2
Chico, CA	1,285		48.6
Fresno, CA	2,988		46.8
Los Angeles, CA	38,304		47.7
Merced, CA	656		52.4
Modesto, CA	1,699		47.3
Oakland, CA	9,835		47.0
Oxnard-Ventura, CA	2,487		46.3
Redding, CA	859		47.5
Riverside, CA	10,708		49.4
Sacramento, CA	6,122		45.3
Salinas, CA	1,516		44.3
San Diego, CA	10,350		43.6
San Francisco, CA	9,124		41.7
San Jose, CA	5,238		40.2
Santa Barbara, CA	1,899		43.5
Santa Cruz, CA	1,291		40.3
Santa Rosa, CA	2,287		42.2
Stockton, CA	2,198		49.2
Vallejo, CA	1,987		45.0
Visalia, CA	1,435		49.8
Yuba City, CA	642		49.8
Alaska	805		37.3
Anchorage, AK	272		39.7
Hawaii			
Honolulu, HI	3,552		43.4
	2,531		43.2

NOTE: Only aged Medicare enrollees who did not have end stage renal disease and were not members of health maintenance organizations (HMOs) are included.

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Medicare Statistical System.

Appendix D. Coefficients of variation for hospitalizations and mortality rates

The variability of discharge rates and mortality rates among metropolitan statistical areas (MSAs) is measured by coefficients of variation (CVs). As used here, the CV is defined as the unweighted standard deviation of the discharge and mortality rates divided by the unweighted

mean of the rates. The calculations are performed across all 365 MSAs and rural areas. CVs are pure numbers, enabling comparisons of the area-to-area variability of rates across procedures: The higher the CV, the greater the variability.

Table D-1. Coefficients of variation for 26 diagnostic groupings: United States, 1986

Diagnostic grouping	Discharges per 1,000 enrollees	30-day post-admission deaths per 1,000:		Deaths per 1,000 aged persons
		Discharges	Enrollees	
All discharges	0.15	0.09	0.13	0.08
All cancers	0.13	0.12	0.18	0.10
Malignant neoplasms of digestive organs and peritoneum	0.15	0.18	0.22	0.16
Malignant neoplasms of trachea, bronchus, and lung	0.27	0.20	0.28	0.19
Stroke	0.16	0.15	0.21	0.19
Heart disease	0.17	0.11	0.17	0.14
Ischemic heart disease	0.19	0.16	0.20	0.19
Acute myocardial infarction	0.18	0.14	0.22	0.23
Pneumonia and influenza	0.28	0.17	0.29	0.26
Hernia of abdominal cavity	0.26	0.80	0.80	1.03
Disease of gallbladder	0.20	0.46	0.49	0.57
Fracture of neck of femur	0.13	0.32	0.35	—
Cancer (high risk)	0.18	0.12	0.18	0.12
Severe acute cardiovascular disease (high risk)	0.16	0.12	0.18	0.22
Severe chronic cardiovascular disease (high risk)	0.22	0.14	0.25	0.36
Circulatory disease (low risk)	0.21	0.24	0.27	0.24
Gastrointestinal catastrophies (high risk)	0.22	0.26	0.30	0.30
Metabolic and electrolyte disorders (high risk)	0.34	0.25	0.40	0.41
Pulmonary disease (high risk)	0.26	0.15	0.27	0.23
Renal disease (high risk)	0.35	0.29	0.47	0.39
Infectious disease (high risk)	0.28	0.21	0.37	0.44
Severe injury (high risk)	0.36	0.59	0.63	1.58
Neuropsychiatric and sensory disease (low risk)	0.28	0.44	0.46	0.45
Gynecological disease (low risk)	0.22	1.70	1.67	2.88
Gastrointestinal disease (low risk)	0.23	0.28	0.32	0.42
Urologic disease (low risk)	0.21	0.50	0.57	0.56
Cutaneous and musculoskeletal conditions (low risk)	0.19	0.29	0.32	0.28

Discharge rates

CVs for discharge rates were calculated for selected diagnostic categories. They varied from 0.13 for all cancer and fracture of the neck of femur to 0.36 for severe injury (high risk), as shown in Table D-1.

The low coefficient of variation for fracture of the neck of femur may reflect the fact that this is usually an emergency admission, with little discretion regarding the decision to hospitalize the patient. The heart disease and stroke diagnostic categories also exhibited low coefficients of variation (0.16–0.19), indicating relatively little variability for these common conditions.

In addition to severe injury (high risk), relatively high variability was exhibited for renal disease (high risk), 0.35, and metabolic and electrolyte disorders (high risk), 0.34. The high variability of hernia of the abdominal cavity (0.26) may reflect a tendency to treat this condition on an outpatient basis more frequently in some areas than in others, making the hospital discharge rate low in areas where outpatient treatment is used.

30-day post-admission death rates

The diagnostic category with the highest CV for 30-day post-admission deaths per 1,000 discharges was gynecological disease (low risk). The CV for this diagnostic

category (1.70) was more than twice as high as any other CV, likely reflecting the instability of rates for gynecological disease because of the low number of deaths associated with this condition. Other diagnostic categories with relatively high CVs were hernia of the abdominal cavity, 0.80, and severe injury (high risk), 0.59. The lowest CVs were for all cancer (0.12) and heart disease (0.11). Cancer (high risk) and severe acute cardiovascular disease (high risk) also had CVs of 0.12.

Total death rates

For deaths per 1,000 persons, gynecological disease (low risk) had the highest CV, 2.88, followed by severe injury (high risk), 1.58. These high CVs probably reflect the fact that relatively few deaths are attributed to these conditions. The lowest CVs were for all cancer and for cancer (high risk). Heart disease also had a relatively low CV (0.14).

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Health Care Financing Administration
1A9 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207



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